MAY 10 1926 Medical Lib.

The
Public Health Journal
OFFICIAL ORGAN
Canadian Public Health Association

Vol. XVII TORONTO, MAY, 1926 No. 5

CONVENTION NUMBER

FINAL PROGRAMME
OF
CANADIAN HEALTH CONGRESS

UNIVERSITY OF TORONTO
PHYSICS BUILDING
TORONTO, MAY 5, 6, 7, 1926

$2.00 per annum 40 ELM STREET, TORONTO 20 cents per copy

The Requirements of the Growing Child

demand that milk form the basis of the daily diet.

This is because milk contains in an easily digested and assimilated form, a large amount of mineral salts, proteins and vitamins, which is so essential to normal body growth.

NESTLÉ'S MILK FOOD

contains not only the "Food Essentials" found in milk, but also the stimulating action of malt, plus the sustaining and strengthening value of wheat.

This ideal combination of milk and cereals furnishes the infant, the growing child, as well as the invalid and convalescing with a food that supplies the greatest amount of nourishment with the least digestive effort.

The coupon is for your convenience, and will bring you a supply to prove the dietetic value of Nestlé's Milk Food.

77

MADE BY THE MAKERS OF LACTOGEN

NESTLÉ'S FOOD COMPANY OF CANADA, LIMITED
84 St. Antoine Street, Montreal

Please send without charge, a supply of Nestlé's Milk Food for a clinical trial.

Name .....

Street .....

Town or City .....

Province..... B

THE ANNUAL CONVENTION

of the

Canadian Public Health Association

Canadian Social Hygiene Council

Ontario Health Officers Association

will be held in

TORONTO

MAY

3rd, 4th, 5th, 6th, 7th

1926

The Public Health Journal

Vol. XVII. TORONTO, MAY, 1926 No. 5

Montreal Anti-Tuberculosis and General Health League

Address of the Chairman, Annual Meeting, 1926.

Sir Arthur W. Currie, G.C.M.G., K.C.B., LL.D.

This Anti-Tuberculosis and General Health League was organized two years ago because there existed a very general and positive conviction that health conditions in our city were far from satisfactory. We felt, also, that in health matters, Montreal was not keeping abreast of the times, was not dealing with these matters in a manner worthy of enlightened citizenship, and that, as a result, our citizens were not sharing the advantages enjoyed by people in other places. From our educational institutions and from other sources, we had become aware of the tremendous advances which had taken place in many places in matters pertaining to the prevention of disease. Comparing conditions in our own city with those existent in many other places, we were shocked, even appalled, at Montreal's loss of infant life and at the very high death rate from Tuberculosis. We were convinced that if other cities, by intelligent action, had been able to reduce the number of cases and deaths resultant from certain diseases and among infant population, we must see to it that Montreal citizens, particularly Montreal children, should have the same advantages, otherwise in our own estimation and in the eyes of the world we should stand condemned as ignorant and non-progressive, if not inhuman and even criminally negligent.

During these two years I have had the honour of being Chairman of your Committee, and I have learned many things concerning the health problem. I have realized more than ever before that prevention of disease is only half the health problem. Now, much has been done in the field of preventive medicine. An ever increasing number of diseases is being added to the list of those preventable. In conversation a few days ago with an acknowledged local authority, I was told that

ten or twenty years might see the Alexandra Hospital no longer used as an Isolation Hospital—contagious disease being by that time fully controllable and controlled. All honour to the medical profession and to the scientist for the splendid work accomplished in this field. In fact, one almost comes to the conclusion that before long the only condition from which one may die in a "respectable, unpreventable" way, will be "old age".

Now the other half of the problem is the maintenance of good health. These two halves—prevention of disease and maintenance of good health—make up the whole health problem. That's it, that's Montreal's health problem—to prevent all preventable diseases, contagious and otherwise, and to secure good health for all its citizens. That is the work which this League is trying to do, and is, I believe, meeting with a considerable and appreciated success.

Let me now direct your attention to certain statistics which give startling information regarding preventable diseases. I have examined the mortality statistics for 1925, and I find, first of all, that 9,549 deaths occurred in that year. This number includes deaths from certain diseases which can be entirely prevented, such as—

Typhoid Fever	52 deaths
Diphtheria	100 deaths
Tuberculosis	936 deaths
Syphilis	49 deaths
General Paralysis	42 deaths
Diarrhoeas under 2 years of age	1,098 deaths,

making a total of 2,277 deaths from preventable causes.

Examining still further, we find 58 deaths from scarlet fever, a disease which may now be considered curable if promptly and properly treated with the new scarlet-fever antitoxin. There were 83 maternal deaths which cause can be practically eliminated by proper ante-natal and natal care. Then there was the large number of 1,676 deaths in early infancy (exclusive of the deaths from diarrhoea). One-half of that number (850) are definitely preventable. In addition, there were 324 deaths from external causes, mostly accidents of various kinds. Altogether, this makes a total last year of 3,592 deaths from preventable causes, or 37% of the total number.

These statistics demonstrate that the possibilities are enormous. One admits quite readily that no place has as yet succeeded in eliminating all these preventable deaths, but many cities have gone a long way in that direction. Without inflicting further figures upon you, I am satisfied that I am making a conservative statement when I say that when we

have advanced as far as some other cities have already gone, we will have cut in half this annual number of preventable deaths. (Half is 1,796.) This statement can be substantiated by pointing out that our general death rate for 1925 was 14.3 per 1,000. Reduce that by 20% and we have a rate of 11.5, which is the rate other cities, such as New York, Chicago, Detroit and Cleveland, have attained. (One-fifth reduction in last year's death rate would have meant a saving of 1,910 lives.)

It is generally agreed that for each death there are 10 acute cases of disease. So with our present population we can surely prevent each year at least 2,000 deaths, and 20,000 cases of acute disease. I believe these conservative figures give a complete answer to the question as to whether or not expenditure on public health is justifiable. Each death represents an average expenditure of $150 on doctors, medicines and funeral expenses, to say nothing of the biggest item, loss of time and waste in other directions. Each case of acute illness costs at least $10. Add these up and you will find a sure saving of $500,000, which sum is now actually spent on diseases and deaths due to preventable causes. Also, the State loses 2,000 lives, which, from the standpoint of the State, are worth at least $1,000 each, or a loss of the State's greatest asset to the extent of $2,000,000 annually.

Furthermore, we all know that poverty causes sickness. For example, in the province of Ontario 13% of the amount spent on mothers' allowances is on account of the loss of the bread-winner from one preventable disease—Tuberculosis. It follows that in Montreal we are spending much money and losing much money because of the occurrence of preventable diseases.

I think I have proven the existence of our problem and shown the need for our work—its solution. Part of the solution is the expenditure of the necessary money to accomplish the prevention of preventable diseases. When one suggests the expenditure of money, one must be ready to meet the argument that we have not the money to spend. I would remind you that the money is being spent now. It means the diversion of money now being spent on illness to the prevention of illness—really a form of health insurance.

The city of Montreal spends less than $300,000 per annum on health work, or a little over $0.40 per capita. We could double this amount by giving half of what can be saved by an extension of health work. I believe we have a very good health department. I have every confidence in the ability of its Director. I believe the Department is giving good value for the money now expended. We are receiving forty cents worth of health work per capita. If we, the citizens of

Montreal, want more health and less disease, we must pay for it, because it has been proven beyond question that, within natural limitations, public health is purchasable.

Surely, the safeguarding and care of public health is the first responsibility of the State.

We have all been pleased during the past year to see practical evidence of the acceptance of this responsibility by the City Council. We want to see this extended; we desire to see our existing laws properly enforced in the interests of the welfare of our citizens. Particularly do we wish to see the school medical inspection service developed, so that the great benefits which may be derived from such a service will be assured to every Montreal child of school age, thus enabling them to go out into life equipped with sound bodies. Is not the provision of a sound body an essential part of our educational system. No man can make the maximum contribution to his work, his home or his country without it.

Now let me refer briefly to the other half of the health program—the maintenance of health. This linked up chiefly with the provision of proper living conditions, public health nurses, teaching in the home, health education in the schools and general health instruction. Results of this work are not recorded so clearly in mortality statistics. Their record is seen in the increased happiness and efficiency of the people. However, the general concensus of trustworthy opinion is that proper hygienic living, and by that I mean proper housing, proper food, fresh air and rest, after the correction of any diseased condition, will prevent the occurrence of the heart and kidney diseases which are responsible for so many deaths in what we term the prime of life. In this connection, I have been impressed with the value of the yearly medical examination. Does it not seem reasonable to conclude that such an examination will reveal the earliest signs of disease and so make possible its treatment, besides enabling the individual to secure proper advice as to how he should live. No one questions that health is a desirable thing. No one but knows that he is happier and does better work when he is feeling well. It follows then that, if as a nation we are to achieve the best results, we must, as a nation, have good health. Sir George Newman has truthfully stated:—"The impairment of the physique of the human body is the impairment of the intellectual and moral fibre, and the body is the tabernacle of the spirit of man".

Are we making progress in Montreal.

Tuberculosis and infant mortality are two good measuring rods of progress in community health. We find 936 tuberculosis deaths recorded

for 1925, a decrease of 42 from the previous year and a rate of 140 deaths per 100,000 population—the lowest rate on record for this city.

The infant deaths total 2,690, which number is 461 less than the previous year. It would seem that we are making some progress, but the rate is too slow when we compare those figures with what pertain in other cities.

I think that while we are not satisfied with our rate of progress, we are all satisfied that real advance has been made during the past year, not only in the results, but in the efforts put forth.

In regard to tuberculosis, there has been an extension of dispensary facilities, a great increase in the number of homes under supervision by public health nurses, the opening of two institutions for the tuberculous and the passage of the milk by-law.

What of the future?

All these activities must be extended. We must improve our housing conditions in order to make happier homes. We must look ahead and consider the care necessary for those discharged from the sanatorium. We may find it necessary to provide sheltered employment or establish village colonies.

And now I come to a matter of very vital and primary importance. I refer to the development and appreciation of Industrial Hygiene. Our present health services are concerned almost entirely with women and children. The neglect of the men reacts against most of our work and is evidence of an unbalanced programme. The health of the wage-earner is of tremendous importance, yet, from the time they pass from under the supervision of the school health service, they are practically omitted from our present health programmes. An effort to reach men and women in industry must be made if for no other reason than that here lies the opportunity for the earliest detection of tuberculosis in the younger age group where the disease reaps its greatest harvest. But there is another reason, and I beseech the ear of business men. Industrial medicine is based on sound economic principles. A good health service in an industrial concern is a good investment, for good health among the employees means more happiness and good will, greater efficiency, larger production and higher dividends. It is to the company's advantage if the incidence of sickness and accidents is cut down. Let us take a few figures. In one group of industries last year, where there were 40,000 wage-earners, the time lost through disability amounted to 1,200,000 days. In the United States there are 25,000,000 workers, and it is estimated that the time lost through disability amounts to 1,650,000,000 of days annually.

Health service for industries based on the modern lines of industrial hygiene has done an enormous work in preventing these disabilities and in increasing the efficiency of output. Time lost has been reduced as much as 50%. Infection following injuries occurring in industry has been cut down, in some instances, to 1 per 1,000. Careful preliminary examination of applicants for work have reduced disabilities 65%, and diminished the labour turnover by hundreds of thousands. These figures are very instructive and illuminating.

In conclusion, let me say that, in my opinion, Montreal's health problem will be well on the way to solution when our housing conditions are made right, when our new health by-laws are enforced, when our school health service is fully developed, and when all existing activities are brought to the point where they cover the entire city and all age groups, and industry is included.

I believe that, as a Health Agency, we have certain duties. We must assist in the fuller development of our governmental and municipal health departments by creating a public opinion favourable to such a development, which means an expenditure of money. We can do this by working together for the cause rather than for our own agency. We must spread health knowledge. The report of the Managing-Director, Dr. Fleming, will tell you how this health league is trying to do its part with the means at its disposal.

In closing, I desire to express, on behalf of the Health League, our very sincere thanks to the press of the city for their very able assistance. There is no more valuable and effective channel for health teaching than that afforded by the press. Great good is undoubtedly accomplished by their spread of health knowledge. The kindness and help we have received from every agency with which we have come in contact are very much appreciated. And finally, let me remind you and the public of Montreal that all our work has been made possible by the gift of that very generous and public-spirited person, Lord Atholstan.

Montreal Anti-Tuberculosis and General Health League

Report of Managing-Director, Annual Meeting, 1926.

A. Grant Fleming, M.C., M.B., D.P.H.

To conform with our original plan of work and to follow the lines of our first annual report, this, our second report, will be presented under three main headings—Health Education, Surveys and Demonstrations.

1. Health Education

(a) Health Articles—

We have prepared each week a short article on "Health". The press have continued in a generous manner to give space to these articles. Many special articles have been furnished to different publications upon request. Through these channels, we have been able to place before the citizens, and the public in general, information concerning health. Such health articles are read by many. Recently we have had requests from two of the largest Canadian cities for permission to republish our newspaper articles. Within the past two weeks a citizen came to our office in regard to the health of his wife. This visit was prompted by our health articles. Arrangements were made for the examination of his wife, and within a week of his visit she was in sanatorium, an early case of tuberculosis.

We have continued to accept the opportunities given to talk to groups. During 1925, your managing-director gave thirty-eight formal addresses.

(b) Social Hygiene Committee—

At the meeting of the Board of Directors held on November 25th, 1925, there were present representatives from the temporary Montreal Social Hygiene Council. As a result of this meeting, an agreement was entered into by which the General Health League undertook to act as the local committee of the Canadian Social Hygiene Council. This was done because it was felt that the aims and objects of both organizations could be best attained in this manner, and that it would prevent any duplication of effort.

The agreement provided for the creation of a special committee selected by the existing temporary Council. This was done. The committee have met and have decided tentatively that their present programme will be the development of a Health Speakers' Service. This will be chiefly for younger people, because of the possibilities of doing more constructive work for them.

Very shortly you will have a copy of this programme placed in your hands, and it is hoped that every member will consider it a personal responsibility to interest groups and arrange for them, if possible, to hear and to learn from the proposed Health Speakers' Service.

(c) "Health in the Home"—Group Instruction—

We have continued to carry on our group instruction for women under this heading. A series of ten talks and demonstrations on the health subjects, which every woman should know and which she needs to know, in order to protect her own health and that of her family, is offered. To date, we have given this course to ninety-eight women. This is the one piece of our work which has been disappointingly slow in development. So far as it has gone, it has been satisfactory. The members of the Health League will, we hope, undertake to assist by organizing groups of women, so that the greatest number possible may have the advantage of following this interesting and instructive course. We should have at least 1,000 women pass through these classes each year. Where this course has been given, it has been appreciated, as evidenced by the organization of second groups. One class as an expression of gratitude made us a donation of $25.00.

(d) Health Literature—(1) "Health in the Home" Booklet—

We published a booklet which is used as a text-book for the course and for careful distribution in the homes we visit. This booklet contains the modern accepted health teachings. It has been appreciated, and we have received many outside requests for copies. We feel that there is value in having one fairly comprehensive standard health book for distribution, and that the Health League should provide copies to any Health Agency, when the distribution is safeguarded to prevent wastage and to make sure that the material is properly presented in the home. We have distributed to date:—

English Edition, 1,500; French Edition, 1,800.

(2) Book-Plate—

Your Directors decided to furnish one book-plate to each school child. It was decided to make the first one a set of Health Rules. The school authorities have kindly undertaken to distribute them and see

that they are properly placed in a school book. If this is a success, your Directors have in mind a further distribution at intervals, possibly illustrating these rules in a series. The object is to assist in health teaching.

2. Surveys

(a) Milk By-Law—

On the morning of the day of our last annual meeting, we presented our petition to the civic authorities, asking for favourable action concerning the milk by-law. That petition voiced the formal request of over fifty organizations. Since that time, the by-law has been passed and comes into effect on May 1st next. The same united force which secured favourable consideration for the by-law will also secure its proper enforcement.

(b) Housing—

As stated at our last annual meeting, a representative committee was brought together to consider the problem of housing in Montreal. The members of this committee first satisfied themselves that housing conditions are not as they should be in this city, that is, speaking from the social and health standpoint, which was the one under consideration.

Having done this, they suggested to the organizations which they were representing that the committee should be made permanent for the purpose of drawing up the necessary law to ensure proper housing, and to take the necessary steps to secure its enactment.

The committee, after a great deal of careful study, have decided upon the law. At present, it is being reviewed by certain authorities whose technical approval is deemed necessary. As soon as this has been done, the committee will proceed to secure the enactment of the law. No details are given at this time, because to discuss the proposed law would be premature and would require a special report. This report will, of course, be made as soon as the members of the committee are ready to proceed. There will be no delay, because all are anxious to get ahead; but it will be appreciated that there are many major and minor details, all of which must receive consideration.

(c) Survey—Tuberculosis Deaths—

With the approval and assistance of the City Health Department, a survey of tuberculosis deaths was made. From the investigation of 562 deaths, we secured on 295 information reasonably complete for tabulation. As these 295 made up an average group, it was felt that the number was sufficient from which to draw conclusions.

The information obtained is set out in the following tables:—

TABLE I

Sex		*Marital Condition*	
Male	130	Single	153
Female	165	Married	130
	—	Widow	11
	295	Not stated	1
			—
			295

Age

0— 1 year	14	or approximately	5% of total
2— 4 years	8	or approximately	3% of total
Total under 5 years	22	or approximately	8% of total
5— 9 years	8	or approximately	5% of total
10—19 years	41	or approximately	14% of total
20—29 years	86	or approximately	29% of total
30—39 years	52	or approximately	18% of total.
40—49 years	45	or approximately	15% of total
50— years	41	or approximately	14% of total
	295		

TABLE II

Birthplace

CANADA—Montreal	134	or 45% of total
Outside Montreal	113	or 38% of total
	247	or 83% of total
ENGLAND	8	
SCOTLAND	4	
IRELAND	3	
NEWFOUNDLAND	2	
U.S.A.	9	
FRANCE	1	
BELGIUM	2	
HOLLAND	1	
ITALY	5	
ROUMANIA	5	
LITHUANIA	1	
SYRIA	1	
GREECE	3	
RUSSIA	2	
CHINA	1	
Total Non-Canadians	48	or 17% of total

Total Canadians 247
Total Non-Canadians 48

295

TABLE III

Born Outside Canada

	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20 yrs. and over	Not Stated	Total
Arrived in Canada	5	1	10	8	21	3	48
Arrived Montreal	8	1	10	8	21	0	48

Canadian Born

	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20 yrs. and over	Not Stated	Total
Arrived Montreal	15	16	18	18	41	5	113

TABLE IV

Type of Disease

PULMONARY	221	or approximately 75% of total
MENINGES	14	or approximately 5% of total
OTHER	29	or approximately 10% of total
Not Stated	31	or approximately 10% of total
Total	295	

Positive Sputum in 151 cases—51% of total.
Positive Sputum in 141 cases of the 221 pulmonary—64%.

TABLE V

First Visit to Doctor or Dispensary

	Total		Approx. %
0—6 mths. before death	128	or	43
6 mths.—1 year before death	68	or	23
1—2 years before death	51	or	17
2—5 years before death	27	or	9
over 5 years before death	17	or	6
Not Stated	4	or	2
	295		

Private Physician	189	or 64%
Dispensary	106	or 36%
	295	

Public Health Nurse Visited—95 or 32%.

TABLE VI

First Visit to Physician of Pulmonary Cases.

Group	Total	First visit to physician over 1 yr. before death	%
Married Women over 20 yrs.	64	22	34
Single Women at home, over 20 yrs.	25	11	44
Single Women in Industry, over 20 yrs.	20	9	45
Men over 20 yrs.	85	29	34
All under 20 yrs.	27	12	44
	221	83	37

Private Physician 135 or 61%
Dispensary 86 or 39%

Public Health Nurse Visited—75 or 34%.

TABLE VII

Institutional Care

Sanatorium	19
Institution	65
	84

TABLE VIII

Occupation

Working Women Over 20 Years—Pulmonary

Worked all 1923 — 14 out of total of 20
Worked all 1924 — 11 out of total of 20

Working Men Over 20 Years—Pulmonary

Worked all 1923 — 60 out of total of 85
Worked all 1924 — 34 out of total of 85

TABLE IX

Apparent Source

Other Case in Family — 75 or 25% of all cases.

Previous death of		*Total previous deaths in family*
Mother	13 cases	13
Sister	15 cases	15

Wife	6 cases	6
Brother	9 cases	9
Husband	4 cases	4
Father, Mother, Brother	1 case	3
Father, Mother	3 cases	6
Two Aunts	1 case	2
Mother, Brother	2 cases	4
Grandmother	1 case	1
Two brothers & sister	1 case	3
Daughter	4 cases	4
Two Sons	1 case	2
Father	1 case	1
Mother, Sister	3 cases	6
Four members of family	1 case	4
Father, Sister	1 case	2
Sister, Brother	4 cases	8
Four Brothers	1 case	4
Two children	2 cases	4
Sister & Child	1 case	2
	75	103

TABLE X

Contacts

Supervised	134—45%	Supervised by	
Not supervised	146—55%	Private Physician	69
Not Stated	15	Dispensary	65
	295		134

In 268 homes there were contacts over 16 years of age.

Contacts Under 16 Years of Age

In 111 homes there were 0 contacts under 16 years of age	—	0
In 50 homes there was 1 contact under 16 years of age	—	50
In 44 homes there were 2 contacts under 16 years of age	—	88
In 39 homes there were 3 contacts under 16 years of age	—	117
In 20 homes there were 4 contacts under 16 years of age	—	80
In 12 homes there were 5 contacts under 16 years of age	—	60
In 8 homes there were 6 contacts under 16 years of age	—	48
In 8 homes there were 7 contacts under 16 years of age	—	56
In 2 homes there were 8 contacts under 16 years of age	—	16
In 1 home there were 9 contacts under 16 years of age	—	9
295		524

TABLE XI

Contacts—Pulmonary Cases.

0	Under 16 years in	81 homes
382	Under 16 years in	140 homes
382	in	221

64 homes where pulmonary cases of housewife.
Contacts supervised in 26 cases.

TABLE XII

Homes

Clean	247	Care Taken While Patient Lived	243
Dirty	39	No Care Taken While Patient Lived	36
Not Stated	9	Not Stated	16
	295		295

6 lived in one room	Poor	80
4 lived in two rooms	Comfortable	101
11 lived in three rooms	Well-to-do	104
61 lived in four rooms	Not Stated	10
72 lived in five rooms		295
123 lived in over five rooms		

No Actual Need in the Home	281
Actual Need in the Home	8
Not Stated	6
	295

Relief secured 5 homes.

DISCUSSION

1. This group of 295 cases coincides with the annual vital statistics in regard to percentages of sex, age and marital condition, *i.e.*, shows a larger percentage of deaths amongst women, and the largest number occurring in the 20-29 years group.
2. The death-rate is not unduly influenced by migration into the city.
3. The pulmonary type of the disease is responsible for over three-quarters of the deaths.
4. That 66% of the cases visit a doctor for the first time within a year of their death; 63% in pulmonary cases.
5. Adult men and married women are the slowest in consulting a physician.

6. Approximately 60% of cases are under the care of private physicians and 40% under the care of a dispensary.
7. One-third of the homes were supervised by Public Health Nurses.
8. A large percentage of cases work up until a short time before death.
9. Apparent source is 25% of all cases was a previous case in the home.
10. Contacts are supervised in less than half the cases.
11. About half the contacts are supervised by private physicians, the remainder by dispensaries.
12. There are 524 contacts under 16 years of age; 382 of these are contacts of 221 pulmonary cases.
13. Thirty-nine homes were dirty, and in 36, care had not been taken during the patient's lifetime.

The correction of the weaknesses in our tuberculosis work, as evidenced, is a problem that awaits us.

Tuberculosis Field Service

This report covers the year March 1st, 1925, to March 1st, 1926. During most of this period, six public health nurses have been engaged in this service.

Following an arrangement under which the Royal Edward and Bruchési Institutes undertook to extend their already extensive field of service (for which undertaking the thanks of the community, as well as every encouragement, should be extended to them), the clinics for tuberculosis were closed in certain of the hospitals and the cases transferred to these institutes. This meant that we were relieved of the home supervision of the cases that went to the Royal Edward, as they have their own staff of nurses. We now supervise the homes of tuberculosis cases attending Bruchési Institute, Royal Victoria Hospital, Herzl Dispensary and private physicians. Cases requiring nursing attendance are referred to the Victorian Order of Nurses.

From this division have been transferred the cases living in our two demonstration areas to the care of the staffs of the areas.

		At March 1st, 1926	
Under Supervision During Year		*Discharged*	*Under Supervision*
Homes	1,275	494	781
Cases	1,425	698	727
Contacts	6,068	2,163	3,905

Of the discharged, 80 families, 80 individuals and 420 contacts were allotted to the demonstration areas, and so are still being supervised by the Health League.

TUBERCULOSIS FIELD WORK

Number of home visits	9,132
Number of visits to patients	5,626
Number of visits to contacts	25,810
Number of visits of investigation	2,492
Number of visits of instruction	4,786
Number of visits of arrangements	547
Number of other visits	730
Number of arrangements completed	249
Number of clinics attended	88

Visit of Investigation—First visit and visits in connection with Survey, Tuberculosis deaths.

Visits of Instruction—Instruction in the home.

Visits of Arrangements—Arrangements in connection with admission to institutions, etc.

Arrangements Completed—Patient permanently placed in institution or better home.

ANALYSIS OF ACTIVE AND DISCHARGED CASES AND FAMILIES

Cases	(1425 — 80 in demonstration areas)	1,345
Families	(1275 — 80 in demonstration areas)	1,195

HOME CONDITIONS—TABLE I

	Yes	*No*	*Not Stated*	*Total*
Cleanliness of Home	949	242	4	1,195
Bath	790	401	4	1,195
Wash-Basin	453	728	14	1,195
Yard	698	468	29	1,195
Separate Room	555	710	67	1,332
Separate Bed	684	581	67	1,332
Light & Ventilation—Patients' Room	1,049	216	67	1,332

Location of Lavatory		*Care of Milk*	
Off Kitchen	235	Ice	768
Off Hall	518	Window Sill	382
Bath-room	436	No Care	24
Outside	6	No Milk Used	3
	1,195	Not Stated	18
			1,195

HOME CONDITIONS—TABLE II

Number of Rooms

1	X	24	—	24
2	X	16	—	32
3	X	90	—	270
4	X	289	—	1156
5	X	294	—	1470
6	X	261	—	1566
7	X	129	—	903
8	X	44	—	352
9	X	22	—	198
10	X	19	—	190
11	X	2	—	22
12	X	3	—	36
13	X	1	—	13
14	X	1	—	14
		1195		6246

1,195 families, 6,246 rooms

Or

5 2/10 rooms per family.

HOME CONDITIONS—TABLE III

No. of Contacts (by homes)

All Ages

1	X	108	—	108
2	X	141	—	282
3	X	166	—	498
4	X	218	—	872
5	X	144	—	720
6	X	143	—	858
7	X	104	—	728
8	X	73	—	584
9	X	45	—	405
10	X	18	—	180
11	X	16	—	176
12	X	13	—	156
13	X	3	—	39
14	X	3	—	42
		1195		5648

6,993 individuals (1,345 cases and 5,648 contacts) in 6,246 rooms

Or

0.89 rooms per person

CASES (1425—80 IN DEMONSTRATION AREAS) 1,345

CASES

Table I

AGES

0 — 1	0
2 — 5	47
6 — 14	253
15 — 24	341
25 — 34	302
35 — 49	280
50 —	109
Not stated	13
	1,345

BIRTHPLACE

Montreal	553
Canada	562
U.S.A.	52
British Isles	68
Italy	16
Roumania	10
Poland	4
Russia	36
Belgium	3
Other	28
Not stated	13
	1,345

Religion	
Roman Catholic	1,094
Protestant	147
Hebrew	69
Other	22
Not stated	13
	1,345

Care of	
Dispensary	1,318
Family Physician	27
	1,345

Cases

Table II

No. of Contacts (by cases) 0-21 yrs.

0	X	379	—	379
1	X	182	—	182
2	X	213	—	426
3	X	183	—	549
4	X	138	—	552
5	X	104	—	520
6	X	65	—	390
7	X	35	—	245
8	X	27	—	216
9	X	12	—	108
10	X	6	—	60
11	X	1	—	11
		1,345		3,638

Average of 2.7 children in contact with each case.

Cases

Table III

Diagnosis

Pulmonary	998
Bone	65
Adenitis	29
Other	28
Suspect	212
Not stated	13
	1,345

Source

Other Case in Family, 479

Or

35% of all cases.

Cases

Table IV

Special Study of Source in Discharged Cases

Apparent Source

Wife	6	Daughter and Brother	1
Brother	31	Mother, Brother and 3 Sisters	1
Sister	44	Mother and Sister	2
Mother	21	Father, Brother and Sister	2
Father	23	Mother and Brother	4
Mother and Father	4	Mother and 2 Sisters	1

Wife and Daughter	1	Brother and Sister	3
Wife and Sister-in-law	1	Two Sisters	1
Daughter and Sister	1	Three Sisters	1
Father, Mother and Brother	1	Mother, Father, Brother, Sister	1
Daughter	1	4 Brothers	1
Father and Sister	4	4 Sisters, 1 Brother	1
Wife and Son	1	Aunt	2
Sister and Aunt	1	Uncle	4
Husband	4		

In 618 discharged individual cases there is a history of a previous case in 168, or 27%, representing a total number of 217 previous cases.

DISCHARGES

Table I

REASON FOR DISCHARGE OF FAMILY		REASON FOR DISCHARGE OF CASES	
Not Tuberculosis	23	Sanatorium	69
To care of Family Physician	44	Institution	93
To care of Royal Edward Institute	164	Royal Edward Institute	149
Left City	47	Not Tuberculosis	23
In institution	9	Left City	87
Supervision not necessary	22	Family Physician	23
Moved and lost	105	Lost	66
	414	Dead	108
			618

3. DEMONSTRATIONS

(*a*) Health Instruction in Summer Camps.

Your directors decided to try out, in co-operation with the Old Brewery Mission, the possibilities of health instruction at the Mission's Summer Camp. For this purpose, a public health nurse was supplied by the Health League. There were, at the camp, over 300 mothers with 150 infants.

The public health nurse, in her report at the close of the camp, stated:—

"With regard to the value and possibilities of health work done in Summer Camps, I would say I consider the work well worth while, with unlimited possibilities. The type of camp, such as that of the Old Brewery Mission, is, I consider, an ideal one, made up as it is of a

mixed group of mothers and children. I find the young mother with her first child, and the young ante-natals, the most teachable. Children from six to eleven years of age are very interested in health. Older children should be grouped separately."

This report, having been confirmed by the Superintendent of the Camp, and the officers of the Health League, it was determined by the Directors to endeavour to extend this health instruction to all the summer camps which take mothers and children.

A meeting, with representatives from such camps, will be held very soon to discuss this.

(*b*) Summer Day Camp.

School medical inspection was a service brought into existence by educational bodies in order that the amount of time lost from school, on account of communicable disease, might be minimized. This service has developed into much more than its originators had in mind. In later years, very definite efforts have been made to provide, as part of the educational system, special care for those whose physical condition renders it impossible for them to carry on in the regular grades. To do this, various types of what are usually called special classes have been formed and are part of the educational system in many countries.

It was with the idea of giving a local demonstration of the value of one such type of class that the Child Welfare Association and the General Health League approached the Protestant Board of School Commissioners last spring, and requested their participation in a joint effort on the part of these three organizations to establish a Summer Day Camp or Forest School.

A general acceptance of the plan was obtained from all by May 15th. A joint committee was appointed under the chairmanship of Mrs. T. J. Stevenson.

The necessary supplies and equipment were purchased. A tent and blankets were rented from the Department of National Defence.

It was decided to select children living as near the school as possible. Approximately 150 children were referred by the principals of the schools as being suitable. These children were seen at their schools, and a group of 40 selected. They were chosen because they were physically subnormal; if a child had definitely diseased tonsils or other such defects, which the parent refused to have treated, such a child was not considered.

The homes were next visited. This visit was made to explain the object of the camp, to secure a signed consent from the parent to make

regular examinations of the child and to ensure the co-operation of the home in what the camp would attempt to do for the child.

The usual difficulties were experienced with a few parents, who changed their minds, or refused to co-operate, but practically all exhibited a real desire to assist, and were more than grateful for what was done.

The children spent the whole day at the camp. They had bread and butter and milk in the morning and before leaving. A full meal was served at noon, after which they lay down for two hours. In other words, they had proper food, plenty of fresh air and rest—the trinity of health-giving things.

Their school work was the charge of the two teachers appointed by the Protestant Board of School Commissioners. The camp was visited regularly by a nurse and a physician.

The health results had to be seen to be understood and appreciated. In spite of most unseasonable, wet weather, the children did well from the first. The gain in weight was satisfactory, but the real change was seen in the improved colour, the brighter eyes, the desire to play, eagerness to eat their food and use all the milk, willingness to rest, improved spirit in play.

This did not happen all at once, some children responding more quickly than others, some receiving better home care.

The following extracts from the card records of the children tell the story:—

V. B.—13 years; recommended by Childrens' Memorial Hospital; gained 5¾ pounds.

E. M.—13 years; chorea; gained 7¾ pounds; practically normal when school closed.

M. M.—11 years; sub-normal; Tonsils and Adenoids removed in July; gained 5 pounds; normal when school closed.

S. M.—14 years; sub-normal; leaving school; gained 6¾ pounds.

P. C.—12 years; sub-normal; gained 4 pounds; when seen in November was normal.

M.C.—7 years; sub-normal; good home, but bad eating habits; gained 3½ pounds; when seen in November, mother states she is following advice given and boy now eats as he should.

E. H.—10 years; sub-normal; tonsils removed; gained 6¼ pounds; now normal.

F. H.—12 years; sub-normal; chorea; gained 7½ pounds; normal.

As examples of the failures:—

M. P.—10 years; 8 pounds below average weight; undersized, under-developed; attended 4 weeks, then mother decided she did not like the school and withdrew her; gained 1 pound in that time.

D. M.—14 years; 11 pounds below average weight; under-developed; mother withdrew after attendance of 5 weeks, because "the food was scorched and because it was immoral to have boys and girls lie down for the rest period in the same place".

From a physical standpoint, the results were certainly good. The homes have been visited since the close of the camp and there is evidence that the work has affected the home. In November, most of the children were seen. Some of them had fallen back, but the majority were holding what they had gained and apparently were willing to go to bed earlier and so on, in order to keep well. The School Principals report scholastic improvement in 17 out of 33 cases.

As a demonstration, the Camp was a success. Its real value will, however, be determined by the results which grow out of it, in the way of a permanent Summer Day Camp or Forest School.

The Protestant Board of School Commissioners are being asked as to their intentions for this year.

(*c*) Diphtheria Immunization.

At their November meeting, your directors decided to carry on a campaign to secure the immunization of our population against Diphtheria. The following plan has been adopted.

(1) The co-operation and approval of the medical societies were secured.

(2) A series of newspaper articles was prepared.

(3) 50,000 cards, for general distribution, giving the necessary information, were supplied by the Metropolitan Life Insurance Company.

(4) Two immunization clinics, held weekly, were established at our two health centres.

These clinics were opened the first of this year. We have also attended the offices of the Metropolitan Life Insurance Company to immunize, at the company's expense, the children of their agents.

By the end of February, 450 children, between the ages of one and six, have passed through our hands. 263 have had the two necessary injections and 187 have had their first.

The city, having decided to supply diphtheria antitoxin free, our petition for this, which was practically ready, was not presented.

(*d*) English Demonstration Area, Coursol Street Health Centre.

The opening of this centre was delayed until the decision in regard to the re-organization of work by the dispensaries was made. The work has been properly under way since the first of the year. In this, we have had kindly assistance from several organizations, particularly the Child Welfare Association and the Medical Faculty, McGill University. The Family Welfare Association have established a branch office in our building. For all this, and other assistance, we are grateful.

A house-to-house survey is being made of the district—the wards of St. Joseph and Ste. Cunégonde. Pre-Natal, Infant Welfare and Diphtheria Immunization clinics have been opened. The Royal Edward have kindly turned over the supervision of all their tuberculosis cases in this area to us.

It is too soon to attempt to give any statistics other than to say that on March 1st, we had 384 families under supervision, 8 ante-natal cases, 295 infants, 86 pre-school children, 73 tuberculosis cases and 220 tuberculosis contacts. During the month of February, 820 home-visits were made, 15 clinics held.

The Fireside Club of the Young Women's Christian Association donated $50.00 for the purchase of cod-liver oil and other such necessities for the children of the area.

The League's assistance was given to securing the re-opening of the Laurentian Sanatorium. The officers of the League are connected with many other health organizations, and in this and other similar ways, the League's influence is wide-spread, although not in a form that can be very well expressed, certainly not tabulated.

In closing, may I express my thanks to the Board of Directors for their many kindnesses to me, and, on behalf of the staff, thank the workers in the various agencies for their courtesies to us. I also desire to thank the staff for their whole-hearted efforts and unfailing good-natured assistance.

Report for 1925 on the Activities of the French Health Centre Conducted in Co-operation with the School of Public Health Nursing of the University of Montreal

J. A. Baudouin, M.D., D.P.H., Medical Director

The University of Montreal, through generous contributions from institutions interested in promoting public health, opened a School of Public Health Nursing. In connection with this School, it was felt advisable to have an area in the City which would serve for the field work of the student nurses. At the same time, the Montreal Anti-Tuberculosis and General Health League had also decided to use two areas as demonstration Health Centres in the City. The aim of these Centres is to prove by actual figures the benefits the carrying out of a health programme can give the population. As the aim persued by these two institutions was identical, it naturally resulted in a most cordial mutual co-operation between them, and the area covered by the French Health Centre of the League is actually used for the field work of the student nurses of the School.

The district covered included first the Parish of St. Catherine, with a population of 10,000; later the Parish of Sacred Heart was added, making an increase of 12,000, or a total population of 22,000.

The following are some of the statistics covering the period April 1st, 1925, to March 1st, 1926:

Total number of Home Visits	15,429
Total number of Cases visited	2,110
These cases are divided as follows:	
Ante-Partum	225
Post-Partum	228
New-Born	219
Tuberculosis	95
Babies (1 month to 2 years)	475
Pre-School age children	581
Immunization against diphtheria	222
Other cases	65
Total	2110

Most of our maternity and medical cases have been referred to the Centre by the Metropolitan Life Insurance Company, and most of our Tuberculosis cases have been referred to us by the Bruchési Institute, as there two organizations are intimately connected with the Centre.

In this connection it might be added that a special survey of the Tuberculosis situation is actually in progress. The following line of attack has been adopted. To all the known cases have been added special visits paid to all families where a death from Tuberculosis has occurred within the last two years. This effort is made to search for the largest possible number of contacts and have them duly examined by their family physicians. From these examinations and observations of the cases we are forming the following groups: (1) Active cases to be admitted in our Sanatoria and special T.B. Hospitals; (2) Incipient cases for the immediate institution of their treatment; (3) Undernourished cases likely to develop the disease later, to improve their condition until all danger is eliminated; (4) Immune.

Another activity which is possibly well worth mentioning is the contribution from our Centre to a piece of research work in Tuberculosis to be started instantly by the University of Montreal in conneciton with the National Research Council, under the direction of a special delegate from Pasteur Institute, Paris, Dr. Petit.

Total Number of Consulations held in the Centre, 261.

They are divided as follows:

Pre-Natal	38
Well-Baby	118
Pre-School age	105
Total	261

The attendance at the different Clinics as follows:

Pre-Natal Clinic	384
Well-Baby Clinic	4410
Pre-School age Clinic	1292
Total	6086

These figures give the following average attendance per consulations:

Pre-Natal	10.0
Well-Baby	37.3
Pre-School age	12.3

The total number of registrations at the different clinics is as follows:

Pre-Natal	150
Well-Baby	554
Pre-School age	365
Total	1069

It must be added that the total number of expectant mothers under our surveillance in their homes and at the Clinic, and living in St. Catherine's Parish is 132, or 51% of the average number of births in the Parish. The recruiting of this group, admittedly difficult at the beginning, will be maintained with the greatest intensity until we reach, as soon as possible, our goal of 90 to 95 per cent. The importance of this work is easily realized, as it tends to prevent many of the numerous deaths attributed to congenital debility.

By December we had 100% of the babies under one year of age in St. Catherine's Parish under our supervision. This proportion will be henceforth maintained as every week, through the generous co-operation of the clergy of the parish, we are given the names and addresses of all the babies baptized during the preceeding week.

A constant effort is being maintained to encourage breast-feeding, with the aim of reducing infant mortality by gastro-enteritis, and we are pleased to note a gradual improvement, as the proportion of breast-fed babies up to nine months has been increased from 55 per cent. in May, to 66 per cent. at the end of February. We fully realize the necessity of furthering this movement, because we are still far from the goal of 95% proposed in the "Report of the Committee on Municipal Health Department Practice of the American Public Health Association in co-operation with the United States Public Health Service", published in 1923.

Another activity was started in January which is bound to bring forth fruitful results, the campaign against diphtheria. 86 inoculations were made in January and 138 in February, at the French Health Centre, and the work is being kept up at the same pace for the current month. This immunization will help in reducing and, in due time, eliminating this completely useless, because wholly preventable, disease.

All the figures quoted in the present report give a picture of the extent of the work carried on by our School and Health Centre, and it may seem apropos to conclude them by the result we are beginning to note in St. Catherine's Parish. These are shown by the following statistics, which cover the period from the 1st of April to the 1st of January for the years 1924 and 1925.

Years	Births	Deaths (0 to 1 yr.)	Infant mortality rate
1924	201	43	214
1925	198	25	126

Thus it appears that, while the number of births is practically the same in both years, the number of deaths of babies under one year of age shows a decrease of 18, or a reduction of Infant mortality of 42 per cent. In other words, the reduction of Infant mortality is 41 per cent. over and above the reduction of one per cent. in the number of births.

This result is shown because the campaign against the infant mortality, is the most important and the most urgent problem we are called upon to solve, at the present time, in the whole field of public health, and because these figures encourage us in maintaining our efforts in trying to do still better during 1926.

To all those who have so willingly and generously co-operated with us, I desire to express my sincere gratitude.

In concluding the present report it affords me great pleasure to express my entire and complete satisfaction with our competent and devoted personnel. The entire staff has put its heart in the work and finds its recompense in the general improvement of health conditions among the population to whose service it has given itself with a generosity beyond all praise.

Hieronymi Fracastorii Syphilidis Sive Morbi Gallici

Libri Tres

By The Honourable William Renwick Riddell, LL.D., D.C.L., etc.,
President, Canadian Social Hygiene Council.

To Pietro Bembo:

Book I

What varied chances of things, what seeds brought in this unaccustomed disease, not seen for long ages by anyone, which in our time has raged through the whole of Europe and part of Asia, and through the cities of Africa: into Italy, indeed, it broke through the lamentable wars of the French and received its name from that people (1)—also what remedies, attention and experience (2) and the great industry of men in circumstances of difficulty have discovered—and also the assistance shown by the gods (3) and gifts from Heaven—these shall I here begin to sing and to search the deeply hidden causes through the liquid air and through the stars of mighty Olympus—the while the quiet gardens by their sweet flowers lure me, captivated by the enticing love of novelty—as do the marvel-loving Muses.

O Bembo! (4) shining glory of Italy, if perchance Leo (5) grants you a little surcease from counsels of great moment and from the mighty mass of things whereby he sustains the whole world—and it pleases you to withdraw a little while to the sweet Muses—despise not our efforts and medical work whatever it is. These of old, the God Apollo thought worthy of him—and often did he find delight in trifles. And, indeed, under this trivial disguise is there much of Nature and of Fate and a mighty first cause.

Do thou, Urania, (6) who knowest the causes of things, the stars, the varied effects of the heavens and the regions of the air, be with me and play with me, O Goddess, through the placid shades while breathe on me the gentle breezes, the myrtle wood, and sounds Benacus (7) from his hollow caves—so may the speeding stars praise thee in divine song while thou dost traverse clear Olympus and measure off the glowing fires of wandering ether.

Tell, O Goddess, what causes have produced among us this un-

accustomed plague after so many ages (8). Came it into our world carried by the Western Sea at the time that chosen band leaving the Iberian shore ventured to try the strait and the unknown floods of the wandering sea and to seek the lands placed in another world? (9) For, (10) it is said that from that time this disease by continuous infection reigns through all the cities and wanders everywhere by reason of the constant vibration of the Heavens—and few, it spares. And so is it to be considered that it was by reason of commerce that this contagion was brought to us which, of little importance at first, soon acquiring by degrees both force and food (11) diffused itself in all lands?

As often when by chance a spark from a torch falls into stubble and the shepherd leaves it neglected in the field, this at first feeble and like to die, goes on—and soon, as it little by little increases by its very progress, it is carried aloft and triumphant, it lays waste the harvest and the fields and neighboring grove and casts its flames to the sky. The ancient wood of Jupiter gives out a far-crackling sound and the fields light up the heavens far around.

But, in truth, we are not thus to conclude, if careful observations are to receive credit—it is not right to believe this contagion to come to us, a stranger and brought across the sea.

Because we can point to many in the earliest times, who not exposed to contagion, yet spontaneously (12) experienced this disorder and were the first to suffer from it.

Moreover, it would not be possible for a single contagion to overrun in so short a time—indeed simultaneously—so much territory. Look through the people of Latium and those who cultivate the fertile pasturages of Sagra (13), the Ausonian Woodlands (14) and the Japygian shore (15). See where glides the Tiber and where Eridanus (16) accompanied by a hundred streams into the sea, waters a hundred cities and flows among the placid waves. See you not that at one and the same time this plague raged (17) in all? that we all experienced the same lot?

Moreover, they say that it first attacked foreign lands at the same time—nor did the Iberian people sooner experience it—they who dared to cleave the unknown sea with their prows—than those bounded by the lofty Pyrenees and the waters, and those surrounded by the Alps and the two headed Rhine or than those others whom the far-flung shore holds under the icy North.

Not at a different time did you feel it, you Carthaginians (18) and you who tread the fields (19) fecundated by the Nile or cuho cut the woods of palm bearing Idumaea (20).

When such are the facts, assuredly the cause of this disease is higher and the order of things more recondite—and, unless I err, the origin is more general and powerful (21).

In the first place, then, what things in the earth, what in the lofty ether and what in the great sea, Nature brings to light, do not all come forth by the same chance or by the same laws: but those whose elements are few are in great measure reproduced frequently and everywhere while others appear more rarely; and not unless at certain times and places appear those whose (22) birth is more difficult and whose elements are more deeply hidden (23). Some there are which before they break from the darkness and opaque prison of night, drag out a thousand years and require long ages. With such force do the generating seeds coalesce into one!

So as there is not but one manner of birth for all diseases, the greater part come easily to view, and have an easy birth and elements ready to hand—others emerge more rarely and only after a long time can they overcome the difficulties and perplexing fate and only late can they rise above the deep shades.

Thus Elephas sacer (24) unknown to the Ausonian Shores, thus Lichen (25), long lay hid with which the whole population by the Nile and every neighboring (26) region were so grievously afflicted.

Of this kind is that (27) dire plague which recently came to view and broke its chains in difficult birth—which nevertheless (since countless years have elapsed) we must consider to have been seen not once only but often in the land although hitherto it has not been known to us by name. For age—long time covering everything on the very spot, obliterates both things and names—and the late-born descendants see not the monuments of their fathers.

Yet in the mighty Ocean under the setting sun where an unhappy couple inhabit the land, just discovered, it springs up everywhere and in no place is it not commonly known—to so great a degree can the causes of things and the primordial elements vary with climate and the lapse of time. What, there, the air and suitable soil produce spontaneously, here, at last only a long series of years brings to us.

If then you perchance wish to know the mighty causes of it in orderly arrangement, first consider how much of the great world this evil infects, how many cities it has visited—and when you consider how the seeds of so extensive a disease neither are nor can be in the bosom of the earth or in the sea, it is necessary that you must beyond doubt think and agree in your own mind that the prime cause and seat of the evil is in the air itself, which surrounds the whole earth, which in-

sinuates itself into our bodies in all parts and is wont to send these plagues into the tribe of the living—the air, indeed, is the father of things and the very author of the cause. This air frequently introduces serious diseases into mortals born as it is to corruption in many ways with its yielding body, easily to receive infections and to convey the contagions to others.

Now listen and learn in what way it has carried the contagions—what the gliding ages forbid to change.

In the first place the flaming Sun, all the stars, so change and agitate the earth and the fluid air and the waters of the sea—so that the stars change their place in the very sky and leave their wonted seats and thus the mighty elements transform themselves in various modes. See how when the wintry (28) Phoebus turns his rapid steeds to the South and from a lower level looks upon our orb, the winter grows rigid, and the frost hardens and snow covers the ground and stops the wandering streams with gelid ice—that same Sun when he looks on us nearer from the lofty Cancer burns up the fields, dries up the glades and the thirsty meadows—and the arid summer-tide glory of the night, the golden Moon,

Nor can it be doubted that the glory of the night, the golden Moon to whom the high seas, to whom every fluid is obedient—that the sinister star of Saturn and the star of Jupiter which move more kindly to our orb —that lovely Venus and fiery Mars—and all the other stars change the elements, attract continually and everywhere from afar cause mighty movements.

And that especially if at any time many come into conjunction or hold in devious course ways far removed from their normal track. These, indeed, appear after many years and after many revolutions of the sky fated by the gods (30) for such changes. And, in very truth, when the date has come and they have accomplished the numbered days and the times fixed in advance for their decrees, oh, what (horrors) await the regions of the air, what, the salty waters and the earth! Here all the wide spaces are compressed into clouds, the whole heaven is dissolved in torrents of rain and the flowing rivers in the lofty mountains drag headlong with them forest, rugged rocks, flocks and herds—amidst them Father Po or Ganges with mighty impetus and turbid, overflows the lofty groves and houses and makes the straits far-sounding like the sea. Elsewhere, mighty heats are formed and the very nymphs in their caves will weep the drying streams—or the winds overturn everything or those, barred-in, shake the lowest earth and the cities along with their towers.

Perchance, too, the time will come, Nature and the decrees of the

gods so demanding, when the now cultivated earth will lie washed away by the sea, or a desert. In truth, even the sun itself (who can believe it?) will run a new course and the year no longer have its seasons—either unaccustomed heat or unaccustomed cold will attack the world and a coming day will show to the earth new animals, wild herds will be born spontaneously and take their minds from the primeval source.

Perchance, too, the earth venturing to produce greater things will bear a Coeus, an Enceladus and a mighty Typhoeus, who would dare to push their superiors from the paternal heavens and to place torn-up Ossa on woody Olympus (31).

When you see these events, it is nothing to marvel at that the whole wide atmosphere sickens with new diseases, and that novel contagions after long ages are produced under a certain star in sickly mortals.

Two hundred years have passed away (32) since, Mars mingling his flaming fires with gloomy Saturn, through all the people of the East, through the lands watered by the Ganges, and unaccustomed fever raged, which (shocking to look on) stirring up the bloody sputum from the heaving breast, often ended fatally on the fourth day. This same disease infected the tribes of Assyria and the Persians and after a short time those who drink of the Euphrates and Tigris, the wealthy Arabians and Effeminate Egypt—then the Phrygians, then, too, borne across the waves, it infected Italy and raged over the whole of Europe.

Come now with me to contemplate the sky ever revolving, the home of the gods, and the glowing stars; and, turning the mind to all considerations, ask what has been the condition of these, what signs the stars gave, what they sky protended for our years. Thus perchance there will be opened for you the whole cause of this new contagion and the original course of so great an event.

Look where Cancer (33) lies before the burning doors of mighty Olympus and spreads wide his open arms, there the dire appearances, here the diverse portents of disaster, show themselves—in one part of the heavens you will see great stars with burning rays in conjunction and scatter the evoked flames through the air—flames which the venerable prophet Sirenis (34) looking upon afar from a lofty height—Sirenis whom the divine Urania conducted through all the abodes of the gods and taught the future—cried: "O ye gods, protect the miserable earth—I see an unaccustomed deluge borne through the void and infect the vast tracts of the sky—I see wars, impious wars, in unhappy Europe and the fields of Ausonia everywhere running with blood".

He spake and noted in his writings what was to come.

It is the custom of the gods when the wandering sun has accomplished

certain ages, to announce the decrees through Jove and lay open everything in order—what coming events await the earth and sky.

Since now the time has come with our revolving years, Jupiter, the supreme creator of things and King of the gods, orders Saturn and Mars to come as associates in deeds to be done. Cancer threw back the double doors of the gates and opened wide the interior for the gods. They came together—they to whose care was entrusted the carrying out of the decrees of the Fates. Before the others came ardent Mars shining in fire and steel, powerful in war; and revenge still prevailed and slaughter exulting in blood. After came serene King Jupiter borne on a golden chariot, a benevolent father to all (unless the Fates prevent). Last came wearied by the length of the way and years the scythe-bearing senior (35) who not forgetting his ancient wrath against his son and but grudgingly obeying his offspring, often even went back and retraced his steps threatening much and much angered in his discontented mind. Jupiter from the lofty throne on which he was wont to sit alone consulted the Fates and determined coming events, deeply commiserating the unhappy wars, the ill fortune of men, the falling empires, harassing invasions, and gates of death wide open—and in the first rank the unknown contagions of a new disease—of a disease to be tamed by no power of human skill. The other gods agreed: Olympus stricken trembled and the air was charged with new emanations (36). Little by little the aerial tracts and the farflung void received the contagion, and unaccustomed putrefaction (37) flowed into the empty air and carried contagion into every part of the heavens—either since the stars uniting so with the sun, the fiery force drew from sea and land mighty vapors which, mingled with the tenuous air and corrupted by the new vice, brought to view the very rare disease of something other sent down from the lofty air corrupted the aerial regions. Indeed, I am not ignorant how difficult it is to say what the heavens will do and in what order and to seek the certain causes in all things, to so great a length of years the effect is sometimes delayed—sometimes again (and this is a cause of error) chance plays its part and also various causes concur to produce one result.

Come then, let it not escape thee that in all things Nature is wonderful and in contagions widely variant. For often the air is noxious to trees only and infects the tender bud and the glory of the blossoms; sometimes the crop and delightful harvests, the result of the labors of the year, it has corrupted and burned the wheat ears with scabrous rust and Mother Earth has produced infected seeds: sometimes animals alone are punished, either many or only certain of them.

I myself remember to have seen a malign abundance of the year's production and an autumn wet and with much south wind, in which later on the whole tribe of goats alone of all living creatures suffered. The goat herd led them joyous forth from the fold to the pastures—then it chanced, the while he was singing secure in the deep shade and charming the flock with his rustic pipe—lo! suddenly a restless cough seized some—nor was the way (38) to death far for making convulsive headlong turns and drawing their last breath, they fell dying amid the rest of the flock. Then (strange to say) the following spring and summer, a fearful plague by a violent fever took away the inferior cattle and almost the whole wretched bleating herd.

Can you not see how varied are the seeds of the infected heavens, the various kinds of things, and the certain number existing among things moved and things moving—although, indeed the exposed eyes are more tender than the heaving breast and yet the disease does not seize the eyes themselves but plunges to the lowest lung? In the same way although the grape is more tender than applies it is not infected by them but because livid from the grape only (39). And indeed sometimes strength, sometimes what to feed upon, is wanting—sometimes there is a fixed term of delay—and the pores, here too contracted, there too loose, are of immense importance.

Therefore, inasmuch as contagion is so varied in nature and kind and the seeds are so many and in such strange forms, let us consider this one whose origin is from the sky and which, as though defunct, broke out so marvellously into the air.

This disease did not infect the voiceless denizens of the sea, the natant throng, not the birds, not the brutes wandering in deep woods, not the droves of cattle, or the herds or the horses—but only one kind out of all living creatures, humankind, the one with active mind; and it fed itself deep within our members. Further, out of the whole man what was crass in the blood itself and foul with lentor, this vilest of diseases seized on first, feeding itself on the pinguid moisture—that was the way with the disease and the blood.

Now I shall explain all the effects and the symptoms of this wretched contagion and would that the Muse might be able to grant so much, Apollo might be willing to avert so much—Apollo, who unfolds long ages and to whom poesy is dear—that these our labors may survive many days. Perchance it may even help our descendants, hereafter, to read these symptoms and to recognize the appearance of this plague.

For again when the Fates so decree, after gliding years, the time will be when it will lie asleep buried in black night; and then after long

ages, the very same will rise again and revisit skies and air once again, a coming age will marvel at it (40).

In the first periods, this fact was strange—that after contagion frequently the moon became full four times before the symptoms were sufficiently developed (41). I mean it did not show itself openly at once and as soon as it was received within, but it lay hidden for a certain time and by degrees acquired strength by what it fed on. In the meantime weighed down by unaccustomed malaise and giving way to torpor, those infected discharged their duties too languidly and moved sluggishly with the whole body. The very sparkle faded from the eyes and the color expelled from the face left the countenance dejected. Little by little was produced on the polluted pudenda a caries, and, this unconquered, eroded the parts here and there and the thigh—then the symptoms of the evil showed themselves more openly for when the benign light of the pure day ceased in its flight and brought in the gloomy shades of night, the native heat accustomed to seek the inward parts at night left the outer body so as no longer to warm the members weighted with the weary load of the humors, then the joints, the arms, the shoulders, the calves, were racked with severe pains.

Then where the contagion ran through every vein and the very humors and polluted what was to be its food, Nature, wont to excrete an ill, drove the infected part outward from the whole body—but, in truth, as this was slow from its crass substance and viscous from lentor, much in its progress adhered to the bloodless members and arms—there spreading, it produced extreme pain in the joints; with its lighter part that is by nature more prone to break out, it sought the outer stricken surface of the skin and the extremities of the members. At once, disfiguring eruptions broke out over the whole body and made the face a thing of horror and the breast repulsive—a new form of disease—pustules like acorns and rotten with pinguid phlegm. These, no long time after gaping wide-open, flowed copiously with mucous sanies and corruption (42). Sometimes, too, eating deep and burying itself within, it eroded the body pitifully—for often we saw the joints denuded of their flesh and bones growing squalid, the face eaten away gape with hideous opening, the lips and throat giving forth but feeble sounds (43).

As you have often seen on cherries or the sad tree of Phyllis (44) a pinguid fluid drip from the moist bark and shortly after harden into the stiffness of gum—no different is this mucor accustomed to flow through the diseased body—and then at length to harden into vile callus.

Therefore one sighing over the spring of life and beauteous youth and

gazing with wild eyes on his deformed members, his foul joints and turgent lips, in his misery oft called the gods, oft the stars, cruel.

While all the weary beasts throughout the world were enjoying sweet dreams and the sleep of night, no rest came to them, all sleep fled them into the air, for them (45) rising Aurora reddened unwelcome, for them the day was hateful, hateful the image of night—no Ceres nor gift of Bacchus delighted them—not delicate banquets nor abundance of things, not wealth in city or country nor any other joy—though oftentimes they sought the shining streams, and jocund Tempe (46) and the quiet airs on mountain tops. To the gods were lavished prayers, in the temples incense burned and the altars were decorated with costly gifts—the gods were deaf to every prayer and moved by no gift.

At Caenomania—where the rich Ollius overflows the fat pastures with Sebinian water (47)—I myself remember seeing a distinguished young man than whom no other was handsomer nor one more favored by fortune in all Ausonia (48): scarce had he come to the springtime of glowing youth, distinguished by wealth and descent, whose delight it was to check the swift steed in his course or to don the helmet and stand resplendent in glorious arms or to harden his young body by the strenuous palaestra or to capture wild animals in the hunt and overcome the deer—him, all the goddesses of Ollius, all the maidens of Eridanus (49) had chosen, the goddesses of the groves, the maidens of the land, all desired in hoped-for wedded bonds. Perchance some neglected one, not without cause, called upon the gods as avengers and moved the shrines with her prayers.

For, too trusting in his soul, fearing nothing of the kind, the contagion attacked the unhappy one, the contagion than which none more dire was ever seen and none will ever be seen in other years. Little by little that blooming spring, that flower of youth, that strength of mind perished—then (terrible to relate) a foul tabes enveloped his wretched limbs and his bones loomed large through filthy abscesses, hideous ulcers (oh, pity of the gods) ate away his beautiful eyes, the delight of divine day, ate away his nostrils eroded by firce wound. At length after no long time the unhappy victim of fate left the unseen breezes of the air and the light.

Him bewept the neighboring Alps, him, the wandering streams, him bewept all the goddesses of Ollius, the maidens of Eridanus, the goddesses of the groves and the maidens of the land while Lake Sebanus from above gave forth a groan in rushing currents.

This was the plague which cruel Saturn wrought on the unhappy lands—and no less cruel Mars himself joined in and brought conjoined

doom—nay! by the birth of this plague I would think the dire Eumenides (50) to have decreed against us at once everything fierce and cruel, the Tartarean lakes to have sent forth everything dire from the lowest depth and from their seat by the Styx, affliction and plague and horrible famine and war and death.

O ye gods of our country, under whose aegis is Ausonia, and thou, thou, O Saturn, father of Latium, how hath the people merited such a visitation? and what is there dire and severe which remains not experienced by us? against what people at any time has Heaven been so hard? Thou, Parthenope (51), tell thou first thy afflictions, tell the death of thy Kings, then the despoiling and robbery and neck under the yoke.

Or shall I recount the shameless slaughter, the bloodshed of French and Italian indiscriminately, when Father Po received in rapid stream Tarrus (52), bloody, rolling the dead bodies of men, carcases of horses, crests of helmets and armor?

And thee, O Abdua (53), no long time thereafter, thee, too, foaming and swelled with the blood of our people, the same Father Po in sadness received into his bosom and grieved with thee and solaced thee with friendly flood.

O unhappy Ausonia! in which discord has driven out pristine valor and the ancestral mastery of the world—is there any angle of thee where not exists barbarian slavery? which has not suffered ravage and terrible slaughter? Tell, ye vineclad hills where flows in delightful stream, beauteous Erethenus (54) about to glide into the sea with full horns of plenty and hasten to unite itself with Euganean floods.

O my country, O thou my country long blessed, long peaceful before all others, O my country most hallowed land of the gods, wealthy in resources, fruitful of men, most blessed with rich fields, and the rapid Athesis and Benacus flood (55) who prevents thee to tell thy sorrows and the worst of evils, to match our sorrow with the spoken words and our shameful ignominy and barbarian commands. Hide they head, Benacus, conceal thyself under thy river—now thou dost not, a god, glide between conquering laurels (56).

And see, as if no misfortune had befallen us, no tears and mourning—amidst so many afflictions, that hope of Latium, that hope of learning and of Minerva, is dead.

Snatched away unfortunate from the gentle arms of the Muses, O marc Antony (57), by cruel fate before thy time, falling in the first flower of youth, we have seen thee laid on the furthest shore of Benacus which the sacred wave washes resounding between the rocks—thee, the

shores of Athesis bewept, thee, the spirit of Catullus (58) and the shades heard through the night had called with audible voice to charm the glades of fatherland with fresh melody.

At that time the French King overwhelmed our noble Ausonia (59) with war and subjugated Liguria—in another part, the Emperor conquered the Euganei and placid Silis (60) and rebel Carnus (61) with fire and sword and sorrow and mourning he pressed hard, and on all Latium.

NOTES

(1) Of course, Morbus Gallicus, the French disease.

(2) Lucet's edition omits "quid" in v. 7—

. . . . et quae cura et opis quid comperit usus—found in all other texts.

(3) Stoer, "Dei", of God: other texts "Deum" or "Deûm", *i.e.*, "Deorum", of the gods.

(4) Pietro Bembo, a noble Venetian (1470-1547): a warm friend of the author's; at this time, he was a favourite with Pope Leo X, whose private secretary he was. He was made Cardinal in 1539 by Pope Paul III.

He was a writer of distinction on many subjects, history, belles-lettres, etc.—he is perhaps best known by his

Epistolarum Leonis Decimi, Pontificis Max. nomine scriptatorum, Libri XVI, ad Paulum III. Pontificem Max. Romam missi. Printed at Basel, H. Froben, 1547.

Many particulars concerning Bembo are given in Chalmers and in Michaud: *Biographie Universelle,* Vol. III, pp. 612, *sqq.*

(5) Of course, his master John de Médicis, Pope Leo X.

(6) Urania, the Muse presiding over Astronomy—which in those days included Astrology.

(7) Lacus Benacus, now Lago di Garda, near Fracastorius' country-place at Caphi.

The Lucet text has "aeteris" for "aetheris".

(8) The Stoer text, v. 32, reads:—

Dic Deaquae cansa nobis post secula tanta; but the correct reading is "causae". "nobis" here means "in Italy"—as does "nostrum orbem", our world, in v. 34, "ad nos" in v. 42.

(9) Of course, the expedition of Columbus, 1492.

(10) The texts are "namque" and "nanque", indifferently.

(11) V. 43 . . . . mox et vires et pabula sensim—one of many passages bearing the impress of Vergil's influence, but "vires acquirit eundo" was almost proverbial—as in v. 48, "increvit eundo".

(12) "sua sponte"—without provocation and *per se;* literarry, "willingly".

(13) Now the Alaro (occasionally called Sagriano) a small river in Calabria. Pliny mentions it: *Nat. Hist.,* 3, 10, 15 es one of the innumerable streams of Magna Graecia—the Commentators note that the word is feminine though the name of a river. Cicero gives: *De Naturâ,* III, a proverbial saying concerning Sagra—"it is surer than what's at Sagra". Lucet has "sagrae" not capitalized.

(14) Ausonia is Lower Italy—as Pliny says: "quoniam Ausones tenuere primi", because the Ausones were its first inhabitants: *Nat. Hist.*, 3, 10, 15. "Ausonian woodlands", glades, what Canadians would call "clearings".

(15) "Iapigis orae", (or "Iapygis" or "Japigis" or "Japygis") the land of Iapyx, son of Daedalus—Apulia and Calabria, Otranto.

(16) The Po.

(17) Some texts read "saevit", rages.

(18) The word is "Poeni", properly Phoenicians, but regularly applied to the Carthaginians, their descendants; *e.g.*, "Punica fides", Carthaginian treachery, was provrbial—"punicum malum", a pomegranate, etc., etc.

(19) Stoer has "aula" for "arva" in v. 76: as "aula" for "ausa" in v. 36; clearly misprints.

(20) Idumaea is a small country to the south and east of Palestine: but as Dr. Fournier points out, it seems to be used here for all Western Asia.

(21) As to the argument from these considerations, see Note to Book II, *ante*. Fracastorius does not here advance the argument from astrological prediction —that seems to have been developed later.

(22) Lucet omits "quibus" by a clerical error.

(23) This has troubled some of the editors; but the meaning, at least, is plain enough. Some diseases, etc., are of simple character, having few elements, *i.e.*, few prerequisites, for their appearance—these we find everywhere and often: others require the concurrence of many elements, of elements not easily occurring, deeply hid—these are rare because the concurrence of the many rare elements must be rare.

(24) "Elephas". In his *De Morbis Contagiosis*, Book II, Fracastorius devotes a whole chapter (XIII) to Elephantia or Elephantiasis called by the Greeks Elephas. He strenuously combats the idea advanced by some that Morbus Gallicus was the same disease—he states their argument with great fairness, however. The whole chapter on Elephantia is of engrossing interest, but it does not fit in here.

(25) In his *De Morbis Contagiosis*, Book II, cap. XIII, he says that Pliny in his 26th Book calls Elephantiasis and Lichen new diseases in Italy. In cap. XIV, *De distinctione infectionum cutaneorum*, he says: "Moreover, there arises from salty phlegm what is commonly called Volaticae, Celsus calls it Papulae, the Greeks Leichenas, although there are some who translate Lichenas, Impetigo, which we do not think right but it should be what we call Volaticae . . . . . but, of course, I know that the name Lichenas taken from the Greek is used more broadly for a more repulsive disease of the face, wherefore the poet calls Lichenas "sordidas" and Pliny himself called the new disease seen first in Pompey's time, Lichenas . . . ."

Pliny: *Nat. Hist.*, 26, 2, says that the worst form of Mentagra was called by the Greek name "Lichenas": 26, 3, introduced for the first time during the reign of Tiberius Claudius Caesar—Pliny gives the curious account:—

> "Women were not attacked by it, or servants, or the lowly plebeians or the middle class, but the highest classes (*proceres*, lords) especially by kiss. In many cases when the patient submitted himself to medical treatment, the cicatrix was more disfiguring than the disease; for it was treated by caustics and unless the burning went down to the bone, the disease was apt to recur . . . . ."

(26) Fournier reads "vacina", a clear misprint.

(27) Stoer reads "quam" for "quae", but it is the nominative not the accusative that is required.

(28) "Hibernus", Lucet reads "Hypernus"—other texts (among them the Venetian) "hybernus".

(29) "Squallesco" is an inceptive verb from "Squaleo", a not unusual verb in classical Latin, meaning "to be stiff, rough and dry", " to be sordid, dirty, squalid", and, metaphorically, "to mourn in sordid raiment". The inceptive does not seem to have been used in Classical Latin and Du Cange does not mention it: but it is regularly formed and quite unexceptionable.

(30) Lucet has "Dis" instead of the correct "Diis" of the other texts. Dis, however, is not unusual in Latin texts.

(31) Coeus was a Titan, the father of Latona; Enceladus was the Titan upon whom Jupiter cast Aetna; Typhoeus (Lucet has, improperly, Thyphoens) was a Titan struck by lightning and buried under Aetna by Jupiter. The story of the Titans endeavoring to drive the gods from Olympus, and in order to get up that far, piling Ossa on Pelion is well known. (Lucet prints Olympus with a small initial.)

(32) The reference is to the Black Death, Pestis Nigra, Der Schwarze Tod, la Paste Uoire, the Bubonic Plague which, beginning in the Orient, devastated Europe in the 5th and 6th decades of the 14th Century, destroying, as was calculated, from one fourth to three fourths of the whole human race. England felt it in 1348-9. The celebrated Gui de Chauliac in his *Grande Chirurgie,* Lyons, 1580, gives a graphic description of it in Avignon—he also attributed it to astronomical causes. See Bass: *History of Medicine,* American edition, N.Y., 1889, pp. 315, 316, 317; Babington's translation of Hecker's *Der Schwarze Tod,* London, 1833—Hecker's *Epidemics of the Middle Ages,* Sydenham Society's ed., etc.

(33) Of course, the Constellation Cancer.

(34) Not yet identified and probably a purely mythical personage—the texts uniformly read "Sirenis".

(35) Saturn, "senex Falcifer", Ovid, *Metamorphoses,* v. 218—the form "Falciger" was also used.

(36) The word is "defluxibus" the ablative plural of defluxus which is found only once in Classical Latin—the cognate and practically synonymous "defluxio" is not so rare—we have in English both "deflux" and "defluxion" corresponding to the Greek "aporrhoe".

(37) "marcor" conveys the idea of decay, languor, rot—degeneration: the author's theory of contagion must always be kept in mind.

(38) The original reads "mora", delay, and many texts agree—the Venetian reads "uia", way, and Stoer, Lucet and some others agree. The meaning is the same—"death is near".

(39) The idea is something like this: "Do not imagine that there are no contagions in the air which will affect the lungs because the eyes which are more tender than the lungs are not infected; for you must remember that the grape is more tender than apples, but it is not infected by diseases off apples, but only from another grape.

(40) According to Fracastorius' theory all epidemics die out, and as Syphilis is an epidemic so it must die out like the rest.

(41) We have seen, *ante*, that the primary lesion was at this time not understood but was looked upon as a mere accident—the second period of incubation as we know it brought the first symptoms as Fracastorius believed.

(42) Not dissimilar to papulo-ulcerous syphilis, ulcerated "mucous patches", ecthyma, syphilitic tubercle and other not unusual phenomena in neglected cases—certain mediaeval descriptions are even more horrible.

(43) Phagedenic tuberculo-syphilis with ulceration of the soft parts—also, possibly, syphilitic affection of the larynx or it may be that the feeble sounds were due to the general cachexia.

(44) The almond tree. Phyllis, daughter of King Sithon of Thrace (he is sometimes called Lycurgus), fell in love with Demophoon (son of Theseus, King of Athens) on his return voyage from Troy to Athens. He promised her to return on a certain day and marry her: he was delayed and Phyllis, losing hope, hanged herself. (According to Pliny: *Nat. Hist.*, 16, 26, 45, "Cremusius says that the tree never flourishes on which Phyllis hanged herself). She was changed into an almond tree just as the belated Demophoon arrived and in vain embraced the tree. Vergil in his *Bucolica*, v., 10, speaks of "Phyllidis ignes".

(45) "ijs"—Fournier reads "is" wrongly—it is in the dative plural.

(46) Tempe, a beautiful vale in Thessaly between Olympus and Ossa, traversed by the River Peneus, was lauded in song by Horace, Vergil, Ovid—even the stately Cicero spoke of Tempe.

(47) Caenomanus was the Latin name of a transpadane Colony of Gauls from Maine and neighboring provinces which took the name Gallia Transpadana—it is part of Lombardy, Italy. The Ollius is the present river Oglio, 175 miles long, rising in the Alps, running S.S.W. to Lake d'Iseo which it traverses, then S.E. to the Po which it joins 8 miles S.W. of Mantua. L. d'Iseo was called in Latin, Lacus Sebinus or Sevinus—hence the "Sebinian waters" of the text.

(48) Here, Italy generally.

(49) The Po.

Some texts omit the line which follows, viz:—

"Optarunt, nemorumque Deae, rurisque puellae."

(50) The Eumenides were the Furies—called Eumenides, *i.e.*, benevolent or gracious ones, to placate them.

(51) Parthenope was one of the Sirens who, when Ulysses sailed away, threw herself into the sea for love of him: she was drowned and her body was cast up on shore near where Naples was afterwards built. Naples early received her name. Fracastorius, no doubt, here refers to the conquest of Naples in 1495, and its partition in 1501 between Louis XII of France and Ferdinand the Catholic of Spain. France and Spain fell out in 1502 and the Kingdom became Spanish. Frederick II of Naples was carried captive to France and died there.

(52) Now called the Taro, a small river in Parma district, tributary to the Po, 14 miles N.W. of Parma. The allusion is to the battle of Fornovo, July 16, 1495, when the French, under Charles VIII, defeated the Italians under Gonzaga, and secured the French retreat. Fornovo is in Parma district on the Taro, about 10 miles S.W. of Parma.

(53) Abdua or Addua, now the Adda, a small river in the district of Cremona in Upper Italy, flowing into the Po. Pliny: *Nat. Hist.*, 2, 103, 106, calls it Addua—the Greek form was Adouas. The reference is to the little-known Battle of Agnadello, a village in the District of Cremona near Lodi where, May 14, 1509, the French, under Louis XII, defeated the Venetians.

(54) Now the Rerona, a Venetian river flowing into the Bachiglione near Vicenza: this district was formerly inhabited by a people called Euganeans. The Bachiglione itself flows into the Gulf of Venice.

(55) Athesis, now the Etsch, a considerable river in northern Italy: Benacus, Lago di Garda.

(56) Italy had been unfortunate, unsuccessful in many wars.

(57) Marcus-Antoninus Turrianus, a physician and litterateur, a close friend of Fracastorius, brother of Johannes Baptista Turrinus (or Turrius), after whom he named his very long Dialogue in two Books, *Turrius sive de Intellectione;* and also of Franciscus Turrianus, to whom he addresses a dactylic hexameter of 90 verses in his second volume. To Johannes he addressed two poems, one in elegiacs: *In Obitu M. Antonii Turriani Veronensis*: on the death of Marcus Antonius Turrianus of Verona—it is a beautiful elegy and lack of space alone prevents me translating it here.

(58) Catullus, the Roman poet, had a villa on Sirmio, a peninsula projecting into Lacus Benacus from the south.

(59) Of course Italy: Liguria is in southern Italy from sea to Apennines. The allusion is to the revolt and subjugation of Genoa in 1507: the Genoese revolted from France and placed themselves under the protction of the Emperor Maximilian: Louis XII of France invaded Genoa, entered the city sword in hand, executed many leaders, imposed enormous taxes, abolished the republican constitution and made Genoa part of France for all purposes of government.

(60) Silis, a small Venetian river, Pliny: *Nat. Hist.*, 3, 18, 22. The name was also given to the Jaxartes (Syr-Duria) and the Tanais (the Don).

(61) Carnus, in the Carnic Alps, now Friuli, fell under the sway of Venice late in the 14th century—the Emperor Maximilian took it from the Venetians in 1509, the Counts of Gorza having held the Eastern part till 1500: its capital is Udine.

A Study of Milk Problems in Canada

By a Committee of the Canadian Public Health Association

DR. M. M. SEYMOUR, Chairman

FOREWORD.

ON December 1st, 1924, the members of the Canadian Public Health Association were notified by the Secretary that a Committee had been appointed to make a study of "Milk Problems" and to report the findings and recommendations of the Committee at the next annual meeting of the Association.

The Committee named was as follows:—Dr. M. M. Seymour, Chairman, Regina; Dr. T. A. Starkey, Montreal; Dr. J. A. Amyot, Ottawa; Dr. H. W. Hill, London; Dr. C. J. C. O. Hastings, Toronto; Dr. L. J. Demers, Montreal; Dr. A. J. G. Hood, Montreal; Dr. A. J. Douglas, Winnipeg; Dr. Arthur Wilson, Saskatoon; Dr. F. T. Underhill, Vancouver; R. H. Murray, C.E., Secretary, Regina.

Questionnaires were prepared by the Committee and mailed to each Provincial Department of Health, and to all city Health Departments in the Dominion with a population of over 20,000.

The questionnaire to cities contained 52 questions on various aspects of the milk control situation in Canada, and the response to these questions have been most satisfactory.

The Committee addressed communications to thirty-six different Health Departments in the Dominion and received helpful information from thirty-one of these authorities.

It was the intention to prepare a report based on the information received in the questionnaires and submit this report in draft form to members of Committee for their criticism and suggested amendments, before presenting the report to the Association.

Owing to the date of the Annual Convention being changed at the last moment, from the 29th to the 9th of June, it has not been possible to re-consult with the members of Committee, who have accordingly had no opportunity of endorsing or rejecting the report as it now stands.

The material which follows has, however, been largely contributed by the Committee and by the Health Officers of the Provincial and City Health Departments throughout Canada, to whom the warmest thanks of the Committee are due. Such replies to questions as have lent

themselves to tabulation, appear as an appendix to this report, and the statistics furnished will prove of unusual interest.

The report does not seek to give solution to the legion of problems which surround the protection and control of public milk supplies, but is rather in the nature of a preliminary study of the circumstances and difficulties with which the health officer has to contend in safeguarding the milk offered for sale in his community.

Such information as has been obtained goes to show how varied the problems are, and from how many angles they may be viewed.

It is suggested that the report be considered as a basis on which a more complete and thorough investigation extending over a much longer period may be undertaken, and for this reason it has been thought advisable to refrain at the present time from presenting conclusions other than those of a general nature for the guidance of a future Committee.

The Volume of Supply

The attitude of the health officer to the farmer should be one of encouragement. Every means possible should be offered to the farmer to go into the dairy business, and every encouragement should be given him to make a success of it, always with the understanding that he must place a product on the market which will be clean and safe.

A reasonable interpretation of the laws governing the supply of milk is required of the health officer if the volume of supply is not to be seriously curtailed.

In the western provinces where the farmer is being urged to get away from the exclusive growing of wheat and to go in for mixed farming, legislation and its enforcement must not be such that it will drive the farmer from dairying and result in his falling back on grain as his sole means of subsistance.

During the war years when the price paid to the farmer for wheat was high the scarcity of milk was very marked.

It may be argued that, apart from the undisputed properties of milk as a diet, the quantity of milk consumed has no direct bearing on the health aspect of the question, but the fact must not be lost sight of that the greater the number of producers, the keener the competition, thus enabling the health officer to raise the standard of the product.

The average consumption of 21 cities of the Dominion which have reported on this feature of the supply shows a per capita consumption of .71 pint per day (Appendix 1, Col. 8). The per capita consumption in the city of New York in 1923 was .54 pint per day.

Epidemics of Milk-borne Disease in Canada

Statistics regarding epidemics of milk-borne disease will doubtless be more helpful now that municipal and provincial departments of health are functioning throughout the Dominion. An attempt has been made to collect all available data regarding epidemics in Canada, which have been traced to infected milk, with the result shown in Appendix III. It will be noted that 619 cases and 42 deaths from communicable disease traced to milk have been recorded, and only two diseases are named, viz: typhoid fever and scarlet fever.

The absence of any reference to tuberculosis, a disease which, although its incidence must respond actively to the protection of milk supplies, does not assume epidemic form in the ordinary sense of the word, is natural, but the fact that no records are available regarding diphtheria and septic sore throat conveyed by milk supplies would seem to show how lax we have been in tracing epidemics to their source.

The epidemics given in Appendix III as traceable to milk supplies must represent only a very small proportion of the outbreaks which have occurred, and have either not been recorded or have not been investigated with a view to tracing the source of infection.

The fact remains that milk has been the means of causing more disease than any other single food, and it is as much the duty of the local health authority to safeguard the milk supply as it is their responsibility to provide a safe water supply for the citizens.

Local Milk Problems

One of the questions which was put to the various provincial and city Departments of Health read as follows: "What, in your opinion, are the problems most difficult of satisfactory solution in connection with your milk supply?"

The replies, which have all a direct bearing on the subject of this report, are given below.

Provincial Department of Health, New Brunswick:

"The problem most difficult of satisfactory solution in connection with the milk supply of this Province is the difficulty of obtaining wholesome milk, quite apart altogether from the question of infection by the tubercle bacillus. In a word, 'dirty' milk, which term covers the majority of dangerous contents in milk, is by far the most potent cause of diseases and deaths in the very young to which they are subject, as respects food. For this reason this Department is doing its utmost to promote the compulsory pasteurization of all sources of public milk supply of any considerable amount".

Provincial Department of Health, Nova Scotia:

"Ignorance, misrepresentation, fear of economic complications, argument on infringment of personal liberty".

Director of the Provincial Bureau of Health, Quebec:

"(*a*) Controlling cleanliness in all manipulations at small producers' establishments. (*b*) Obtaining pasteurization from small producers. (*c*) Reducing age of milk supplied to large cities, it necessarily coming from long distances. (*d*) Keeping milk refrigerated in transit".

Provincial Department of Health, Ontario:

"The adoption of a local milk by-law for pasteurization and inspection."

Provincial Department of Health, Saskatchewan:

"(*a*) The supply of pasteurized milk to towns and all other localities in which the population is not sufficiently large to justify the establishment of a pasteurizing plant.

(*b*) The absence of trained sanitary officers in the rural districts of the Province, and the consequent difficulty of giving the rural dairyman first-hand information and advice with a view to producing cleaner and safer milk.'

The City Health Department, Quebec:

"Too many farmers have small herds, their revenue is very small and not sufficient to make the necessary improvements to their stables and to provide the requisite care for their cows. This is the principal reason why we find so many stables in bad condition. In general the said farmers make no improvement. They try to keep pigs and fowls in the stables with the cows, the floors are not cemented, the light is doubtful and very often the ventilation is bad."

City Health Department, Calgary:

"(*a*) To get enacted a by-law for the compulsory pasteurization of all milk used.

"(*b*) To have enacted a by-law prohibiting the manufacture of butter and cheese in a milk bottling plant. Cream for the manufacture of butter and cheese, does not come under the provisions of our by-law relating to milk and cream, nor under the regulations made and issued under the Public Health Act relating to milk and cream.

"(*c*) Educating the farmers to cool the milk immediately after drawn from the cows.

"(*d*) Educating the farmers to deliver milk early in the day to the pasteurizing plant."

(*Continued in next issue*)

Sanitary Inspectors' Association of Canada

PRESIDENT'S ADDRESS

To the Sanitary Inspectors' Association, England

By Sir William J. Collins, K.C.V.O., M.D., M.S., B.Sc., F.R.C.S.

Reprinted from *The Sanitary Journal*

(*Continued from last issue*)

It is a mistaken notion to suppose that those who have accepted evolution as a working hypothesis are led thereby to postulate a merely mechanistic interpretation of the universe, or in ethics to be guided by merely materialistic considerations. In a paper I read at St. Bartholomew's Hospital thirty-five years ago I claimed that "idealism, thanks to the gentle influence of Berkeley and Spinoza and more modern thinkers, has knocked the bottom out of materialism, and the relativity of all knowledge goes behind the reckonings of the mere materialist". The fact is that materialism and positivism, which seemed to some so unassailable in the first half of the nineteenth century, have caved in under the accumulating discoveries which physical science has itself provided. Lord Balfour has truly observed that "as natural science grows it leans more, not less, upon an idealistic interpretation of the universe", for, said he, "the whole universe, visible and invisible, from the insect at our feet to the starry heavens overhead, is but infinitely varied combinations of ether and electricity or convolutions of ether alone".

Evolution has helped us to a dynamic instead of a static conception of the universe as the theatre of action, of force, of will, of the realization of idea, and with Tennyson:—

"We doubt not thro' the ages one increasing purpose runs,
And the thoughts of men are widen'd with the process of the suns."

Religion and science alike are, or should be, in quest of truth, which stands in no need of the protection of authority, but flourishes best in an atmosphere of free and unfettered thought. The Bible remains a classic of righteousness—itself bearing inherent witness to an evolution of faith —but its use is perverted when employed as a handbook of science or a manual of biology.

The story of Socrates condemned to die for teaching the youth of Athens unpalatable truths; the treatment of Galileo under Urban VIII,

and of Servetus by Calvin, as well as the more modern and milder ostracism of Robertson Smith and Frederick Denison Maurice, remind us of the perils encountered by free-thought at the hands of authority. It affords food for reflection, when in days of democracy we find liberty of thought and the expression of opinion coming under the ban of legislation. A majority may make tyranny legal, but they cannot make it right. The sphere of legitimate legislation is not unlimited, and unless we are to emulate the American Senator who was in favour of the law but against its enforcement, it behooves us—scientists and religionists alike—to see that no statute shall violate the right of private judgment in matters of conscience nor transcend the legitimate sphere of legislation.

Let us ever remember that liberty must be conceded to others as well as claimed for ourselves; we must learn to give it as well as to take it. As my kinsman, Sir Samuel Romilly, truly observed: "A genuine love of liberty is not a little selfish feeling confined to ourselves and to the contracted circle of our privileged associates; it expands itself to all without distinction. It is as indignant at that injustice we see done to others as at that which we feel pressing on ourselves and even rejoices that it is unable to exercise, as it is secure from suffering, an unjust dominion".

No writer on evolution, on freedom of thought and free-will, has appealed with greater charm of style or cogency of rhetoric to the present generation than M. Henri Bergson. Rejecting "natural selection", on which Darwin and Wallace set such store, as well as the cruder notions of teleology, he speaks of "creative evolution", of a push or urge or purposiveness from within, in other words, of the immanence of the universal mind which sleeps in the mineral, dreams in the vegetal, awakes in the animal and becomes self-conscious in man. Philosophy is thus delivered from the fatalism of necessity, and the blighting gospel of a materialistic creed.

Seeing then the pervasive influence which the evolution hypothesis has exerted in the natural sciences it is remarkable how meagre has been, until recently, its effect on the study of disease. As Spencer remarked: "It is curious how commonly men continue to hold in fact doctrines which they have rejected in name", and cited the case of Sir Charles Lyell, who united naturalism in geology with a special creative theory in biology. In 1881 in the *Lancet* I called attention to the feeble impression which the doctrine of evolution had then made on medical science and pathology and urged that specificity in disease should be reconsidered in the light of evolution. Three years later I published an essay on *Specificity and Evolution in Disease,* of which Mr. Herbert Spencer was so good as to accept the dedication, and in an introductory letter said: "Its conception

is thoroughly philosophical and promises to open the way to a considerable reform in pathology". I there spoke of the common ancestry of certain specific diseases, of hybrids and mongrels in disease, of indifferent organisms developing noxious and specifically noxious properties, by cultivation on suitable soil. My innocent enthusiasm for evolutionary pathology was denounced as heretical by the reviewers in the medical press. Impenitent and unabashed I have continued to advocate the same principle, urging that: "If it be true that in the life history of the lowest of organic things lie the momentous influences which determine plagues and pestilences, it is reasonable to believe that in organisms whose cycle may be less than an hour, and whose rate of propagation is incalculable, evolution must be powerfully at work eventuating in the survival of those most fitted to their environment, and that in this as in other directions man's influence may modify natural selection, and by acting in accordance with law learn to conquer nature by submitting to her". The heresy of yesterday, as so often happens, has become the orthodoxy of to-day. Ample corroboration may be quoted from authors whom it would be impious to regard as otherwise than canonical. I may cite the writings of the late Dr. T. W. Thompson of the Local Government Board, Sir Wm. Hamer of the London County Council, Sir George Newman of the Ministry of Health, Dr. Crookshank in a paper read before the Royal Society of Medicine, Professor Adami's *Medical Contributions to the Study of Evolution* and Dr. Gurney Dixon's work on *The Transmutation of Bacteria*.

The relation of micro-organisms to disease processes has quite recently achieved fresh notoriety in connection with the nature of cancer. Dr. Gye, in his paper on "The ætiology of malignant new growths", rejects the many various claims advanced to prove a parasitic cause of cancer whether it be a microbe, a protozoon, or a filterable virus of a polymorphic nature. He admits that "an impressive case can be made out against the general conception that malignant disease has an extrinsic specific cause". He recognizes that in final analysis malignancy may be due to cellular perversion and that the influence of external agents may be entirely subsidiary. His own elaborate experiments, following up those of Peyton Rous on certain tumours of fowls which appeared to be inoculable, lead him to look on cancer as a specific disease due to a virus, which, however, is incapable of causing a neoplasm except in the presence of a chemical factor, specific for each species of animal, which he holds "ruptures the cell defences and enables the virus to infect". The part played by chronic irritations and such agencies as soot, coal-tar, paraffin, etc., in the production of cancer, in the light of this specific chemical factor, remains to be investigated and, be it observed, the specific factor,

like the virus, is alone incapable of producing cancer. Working in conjunction with Dr. Gye, Mr. Barnard has, by means of dark ground illumination and the use of ultra-violet light of short wave length, rendered certain hitherto ultra-visible contents of filterable viruses both visible to the eye and manifest to micro-photography.

The publication of these researches of Gye and Barnard were announced in the lay and medical press as a notable event in the history of medicine: the discovery of the parasitc cause or germ of cancer was widely proclaimed, while the cure of the disease and its prevention by immunization were in some quarters regarded as the natural sequel to so welcome an achievement.

Almost concurrently with these announcements Dr. Archibald Leitch, Director of the Cancer Hospital Research Institute, was deploring to the Sanitary Institute Congress at Edinburgh that, while "no department of medicine had been more intensively studied" than that of cancer pathology, he had "no new theory to propound, no message either of hope or of despair", and further that no one who had studied the countless experiments made could "find the slightest evidence of the presence of any microbe that might act as a causal agent"; in fact he said, "it is as nearly certain as can be that the search for the cancer microbe is doomed to failure". Moreover, the *Lancet* of July 18 last, observes that the assertion that there is one thing we do know about cancer, namely, that it is not of germ origin, represents the view of almost every pathologist of repute and that this is true even in the light of Dr. Gye's work, seeing that his virus or germ, by itself, cannot account for the fundamental features of cancer. Should the conclusions of Dr. Gye be substantiated it would appear neither to endorse the claim of the parasite theorists nor the chemical theorists, but to be partially confirmatory of both, while leaving much of the pathology of cancer unexplained.

In my address to the conference at Rhyl, in 1923, attention was called to views expressed many years ago that it was in a return to cellular pathology, illuminated by evolutionary principles, that we might seek for the intrinsic rather than the extrinsic causation of cancer. That by regarding the more highly developed animals "as heirs of all the ages", of the lowly unicellular amœba as well as of their parents, we might view the vagaries of the body cells, in the rapid reproduction of unspecialized forms with vagabond propensities in place of that colonial collaboration into tissue which we call normal, as pathognomonic of cancer. Our search must continue if an adequate explanation of the reason why this tendency to cell perversion or reversion is the fate of the few, and happily not the heritage of all.

(*To be continued in next issue*)

Monthly Jottings of the Sanitary Inspectors' Association of Canada

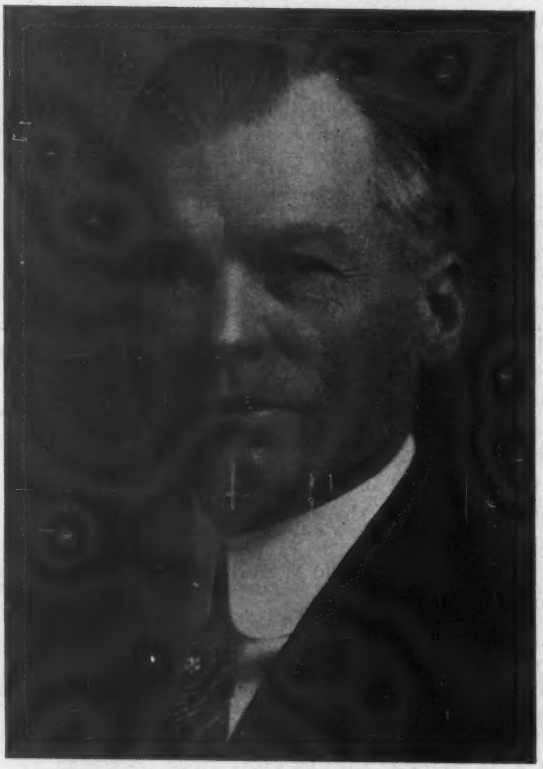
The Winter programme of the Manitoba Branch was brought to a close on March 29th, when a Smoking Concert was held in the Marlborough Hotel, Winnipeg.

A glance at the subjects of the lectures will show that this hour—from 12 to 1 on Saturdays, which has proved most convenient—has been profitably spent. The lecturers were all men of high professional standing, and specialists in their particular lines:

The part played by insects in the transmission of disease.
Preventive Medicine.
Occupational Diseases.
Diet in disease and health.
Smallpox and vaccination.
Milk and Cream.
Problems in smoke abatement.
Leaves from the Note Book of a City Chemist.
Heating and ventilating.
A comparison of old and new theories of Food Inspection.
A visit to the Harris Abattoirs.
A talk on Sanitary Law.
An explanation of the Child Welfare Legislation of Manitoba.
Controlling a milk supply.
A talk on Mental Hygiene.
Tuberculosis.

A truly varied and interesting programme, and of much interest and value to those attending.

In a large city where the Health Department contains subdivisions, such as Communicable Diseases, Sanitary Inspection and Housing, Food, Dairy, Bacteriological Laboratory, Child Welfare, etc., an Inspector working in any of these divisions is apt to devote all his attention to his own line of work, instead of having an interest in the common aims and objects of the Department as a whole. A programme such as the above, helps to correct this tendency. A Sanitary Inspector should be an all-round man, able to deal with most of the subjects specified above, indeed, he may find himself called upon to do so should he accept an appointment in a smaller community.



HON. DR. FORBES GODFREY

Minister of Health, Ontario
Hon. President Canadian Public Health Association
Hon. President Ontario Health Officers' Association
Hon. Advisory Director Canadian Social Hygiene Council

P R O G R A M M E

CANADIAN HEALTH CONGRESS

CANADIAN PUBLIC HEALTH ASSOCIATION
15th ANNUAL MEETING

PRESIDENT
DR. GEORGE D. PORTER
Toronto, Ont.

SECRETARY
DR. J. T. PHAIR
Toronto, Ont.

ONTARIO HEALTH OFFICERS' ASSOCIATION
12th ANNUAL MEETING

PRESIDENT
DR. FRED. ADAMS
Windsor, Ont.

ACTING SECRETARY
DR. J. T. PHAIR
Toronto, Ont.

CANADIAN SOCIAL HYGIENE COUNCIL
6th ANNUAL MEETING

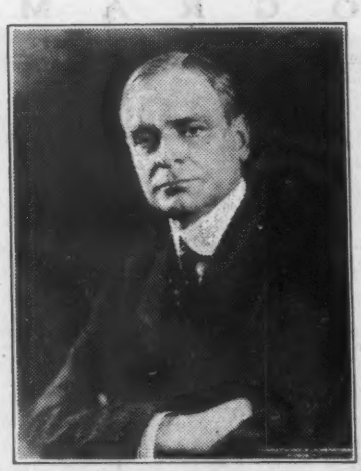
PRESIDENT
HON. MR. JUSTICE RIDDELL,
Toronto, Ont.

SECRETARY
DR. GORDON BATES
Toronto, Ont.

UNIVERSITY OF TORONTO
PHYSICS BUILDING
TORONTO, MAY 5, 6, 7, 1926

Clinics, Demonstrations, etc., May 3, 4 and 8, 1926

Guests of the Convention



DR. GEORGE E. VINCENT
President, of the Rockefeller Foundation

PROF. C.-E. A. WINSLOW
Professor of Public Health, Yale University
President American Public Health Association

PROF. HAVEN EMERSON
Professor of Public Health Administration
Columbia University

Directory of Sessions

All sessions will be held in the Physics Building, University of Toronto, unless otherwise stated

Time—Daylight Saving.

Registration Desk will be open on Monday, May 3rd, Tuesday, May 4th, and Saturday, May 8th, for for those wishing to take advantage of the Clinics, Demonstrations and Visits.

Wednesday, May 5th:

9.00 a.m.—Registration, Physics Building, University of Toronto.
9.45 a.m.—Laboratory Section, Room 18.
9.45 a.m.—Joint meeting of Public Health Nursing and Child Hygiene Sections, Room 43.
2.15 p.m.—General meeting of the Associations, Room 43.
7.00 p.m.—Dinner, Hart House, University of Toronto.

Thursday, May 6th:

9.00 a.m.—Ontario Health Officers' Association, Room 43.
2.15 p.m.—General meeting of the Associations, Room 43.
8.30 p.m.—Joint meeting with the Academy of Medicine, Toronto, Academy of Medicine, 13 Queen's Park.
8.00 p.m.—Public Health Nursing Section, Room 43.

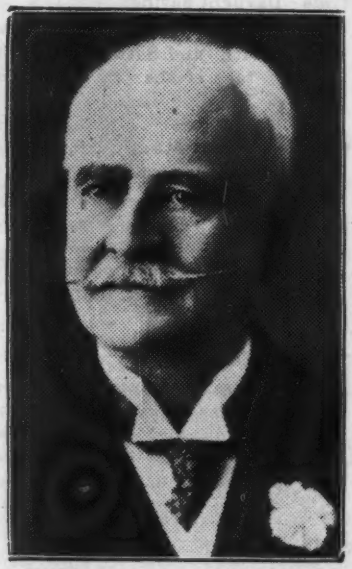
Friday, May 7th:

9.00 a.m.—Ontario Health Officers' Association, Room 43.
9.30 a.m.—Laboratory Section, Room 18.
2.15 p.m.—General meeting of the Associations, Room 43.
5.00 p.m.—Canadian Public Health Association, Annual Meeting.
8.15 p.m.—Canadian Social Hygiene Council, Annual Meeting, Hygeia House, 40 Elm Street.

Clinics, Demonstrations, and Visits arranged by Department of Health, Ontario, Department of Public Health, Toronto, Connaught Laboratories, University of Toronto, Hospital for Sick Children, and I.O.D.E. Preventorium.
Monday, May 3rd, 2.00 p.m.
Tuesday, May 4th, 9.00 a.m.
2.00 p.m.
Saturday, May 8th, 9.00 a.m.

*Register at Information Desk, Physics Building, for these clinics and visits.

DR. GEORGE D. PORTER
President Canadian Public Health Association



HON. MR. JUSTICE RIDDELL
President Canadian Social Hygiene Council

DR. FRED ADAMS
President Ontario Health Officers' Association

PROGRAMME OF CLINICS, DEMONSTRATIONS AND VISITS

The Committee has arranged for the following programme of Field Work through the courtesy of the Department of Health, Ontario, Department of Public Health, Toronto, Connaught Laboratories, University of Toronto, Hospital for Sick Children and I.O.D.E. Preventorium.

Members are asked to register at the Information Desk, Physics Building, University of Toronto, stating the field work selected. Complete details will be supplied regarding the arrangements which have been made for these visits. In order that transportation may be provided to the Island, to the Connaught Laboratory Farm and to the Preventorium, registration should be made at as early as possible.

Monday, May 3rd—2.00 p.m. Milk Control and Food Control.
2.00 p.m. School Medical Inspection and Auxiliary Classes (open air, sight saving and lip reading).

Tuesday, May 4th—9.30 a.m. Visit to Connaught Laboratories Farm—Downsview.
9.30 a.m. Public Health Nursing, Department of Public Health, Toronto.
9.30 a.m. Demonstration of Public Health Laboratory Technique.
9.30 a.m.-3.30 p.m. School Hygiene—including
School Medical Inspection,
School Dental Service.
Auxiliary Classes (open air, sight saving, lip reading).
9.00 a.m.-5.00 p.m. Hygeia House, 40 Elm St., Special Social Hygiene Exhibit and Demonstration of Public Health Publicity Methods.
10.00 a.m. Visit to I.O.D.E. Preventorium.
2.00 p.m. Visit to Toronto Island. Inspection of Slow Sand and Drifting Sand Filters
2.00 p.m. Demonstration of Public Health Laboratory Technique.
2.00 p.m. Milk Control and Food Control.
2.15 p.m. Ante-Natal Clinics.
2.15 p.m. Child Hygiene Clinic (Pre-school Children).

Saturday, May 8th—9.00 a.m.-12 noon. Hygeia House, Social Hygiene Exhibit.
9.00 a.m. Nutrition Clinic, Hospital for Sick Children.
9.00 a.m. Public Health Nursing, Department of Public Health, Toronto.
9.00 a.m. Milk Control and Food Control, including visit to "Rosetown" Certified Farm.
9.00 a.m. Visit to Connaught Laboratory Farm, Downsview.

Visit to Sewage Disposal Plants, Morley Ave. and Leaside arranged on request.

HERE'S HEALTH!

THE Perfection New "Style W" Water Cooler, combined with Konex Paper Drinking Cups, provides a Service which not only protects "Your Greatest Asset"—HEALTH, but at the same time caters to the comfort of your Staff or Patrons.

Medical statistics have proven that cold drinking water is essential to the Health and Vitality.

Make it easy for your Staff or Patrons to obtain this necessity by the installation of our Coolers.

TWO MILLION CUPS USED EVERY MONTH

G·H·Wood & Co

Montreal ~ TORONTO ~ Ottawa

Programme

Registration—Every member and visitor is requested to register early at the Registration Desk, Physics Building, University of Toronto.

FIRST SESSION

Laboratory Section

Wednesday, May 5th, 9.45 a.m.—Room 18.

Chairman—Dr. Norman MacLeod Harris, Department of Health, Canada.

"The Influence of B. Welchii Toxin on Red Blood Cells in Vivo and in Vitro"—Dr. Guilford H. Reed and Dr. J. H. Orr, Queen's University, Kingston, Ont.

"Transfer of Infection by Handshaking"—Dr. Hibbert W. Hill, University of British Columbia, Vancouver, B.C.

"A Survey of the Results of Routine and Other Wassermann Tests in the Toronto General Hospital for the Past Few Years"—Dr. Herbert K. Detweiler, Toronto General Hospital, Toronto.

"Carbon Monoxide Poisoning"—Dr. I. H. Erb, Hospital for Sick Children, Toronto.

Joint Meeting

Public Health Nursing and Child Hygiene Sections

Wednesday, May 5th, 9.45 a.m.—Room 43.

Chairman—Dr. W. J. Bell, Deputy Minister of Health, Ontario.

"Contributing Factors in Child Health"—

"An Analysis of Neo-natal Mortality"—Dr. Helen MacMurchy, Chief Division of Child Welfare, Department of Health, Canada.

"Diet and Hygiene of Pregnancy from the Nurse's Standpoint"—Elizabeth L. Smellie, Reg. N., Chief Superintendent, Victorian Order of Nurses for Canada, Ottawa.

"The Prevention of Infections in Early Infancy"—Dr. George E. Smith, Hospital for Sick Children, Toronto.

Discussion in relation to—

"The Urban Community"—Jessie Woods, Reg. N., Supervisor, Pre-natal, Infant and Pre-School Nursing, Department of Public Health, Toronto.

"The Rural Community and the Nursing Outpost"—Maud E. Wilkinson, Reg. N., Director, Nursing Service, Ontario Division, Canadian Red Cross Society, Toronto.

"Infections of the Pharynx"—Dr. Edmund Boyd, Hospital for Sick Children, Toronto.

Election of Officers, Section of Child Hygiene.

King Edward Hotel

TORONTO, CANADA

DIRECTION UNITED HOTELS COMPANY OF AMERICA

Supper Dance — **Oak Room** — **Rotunda Floor**
Nightly except Sunday, from 10.30 to 1 a.m.
Saturdays from 9.30 until Midnight
After June 1st, Supper Dances in Roof Garden

The Dansant — **New Ball Room, Parlor Floor**
Wednesdays and Saturdays, from 4.30 to 6

Afternoon Tea — **Tea Room, Parlor Floor**
Daily from 4.30 until 6

The Victoria Dining Room
A la Carte Service from 7 a.m. to 1 a.m.

Pickwick Dining Room
Special Plate Luncheons — **Table d'Hote Dinners $1.50**

Our New Cafeteria
Scientifically equipped — **Highest Quality of Food**

P. K. HUNT, Manager

SECOND SESSION

General Meeting of the Associations

Wednesday, May 5th, 2.15 p.m.—Room 43.

Address of Welcome—His Worship Mayor Foster.

Presidential Address—Dr. George D. Porter, President Canadian Public Health Association.

"New Viewpoints in Regard to Ventilation"—Dr. C.-E. A. Winslow, Yale University, President American Public Health Association.

"Health Teaching in Rural Schools"—Miss Jean Browne, President Canadian Nurses Association.

A motion picture dealing with the prevention of diphtheria will be shown at the conclusion of the session. The Metropolitan Life Insurance Co., who are sponsoring the showing, desire the criticism of the film by the members of the associations.

Wednesday, May 5th, 7 p.m.—Complimentary Dinner by the Government of the Province of Ontario, Hart House, University of Toronto.

Speakers—Hon. Dr. Forbes Godfrey, Minister of Health, Ontario; Dr. Charles J. Hastings, Medical Officer of Health, Toronto.

THIRD SESSION

Ontario Health Officers' Association

Thursday, May 6th, 9.00 a.m.—Room 43.

Chairman—Dr. Fred Adams, Medical Officer of Health, Windsor.

SYMPOSIUM ON IMMUNIZATION—

(a) Small-pox—Dr. R. D. Defries, University of Toronto.

(b) Diphtheria—Dr. J. G. FitzGerald, University of Toronto; Dr. Ruggles George, Canadian Red Cross Society; Dr. C. D. Farquarson, Medical Officer of Health, Scarboro Township.

(c) Scarlet Fever—Dr. D. T. Fraser, University of Toronto; Dr. Beverley Hannah, Hospital for Sick Children, Toronto.

Discussion—

Demonstrations of the Schick and Dick reactions and of Smallpox Vaccination.

FOURTH SESSION

General Meeting of the Associations

Thursday, May 6th, 2.15 p.m.—Room 43.

Presidential Address—Dr. Fred Adams, President Ontario Health Officers' Association.

"The Medical Aspect of Immigration"—Dr. D. A. Clark, Assistant Deputy Minister of Health, Ottawa.

"What is New in Tuberculosis"—Dr. R. E. Wodehouse, Secretary Canadian Tuberculosis Association.

"Venereal Disease Control in the Province of Quebec"—Dr. A. H. Desloges Director of Division of Venereal Diseases, Prov. Bureau of Health, Quebec.

"The Prevention and Treatment of Communicable Diseases"—Dr. M. M. Seymour, Deputy Minister of Health, Saskatchewan.

Reception for ladies—4-6 p.m. at the home of Mrs. George D. Porter, 162 Crescent Road.

Visitors to Toronto

A visit to Toronto is hardly complete without a visit to Ryrie-Birks.

So save an hour of leisure to spend in Ryrie-Birks store. Here you will find fine English China and Leathers, European Novelties, Parisian Jewellery, and an outstanding selection of fine Diamonds. And the prices will surprise and delight you.

Ryrie-Birks exercises true hospitality towards its visitors. You are free to browse around and enjoy yourself, without being harassed by unnecessary attentions.

Ryrie-Birks
LIMITED
Diamond Merchants
Yonge and Temperance
TORONTO

FIFTH SESSION

Joint Meeting with the Academy of Medicine (for physicians only)

Thursday, May 6th, 8.30 p.m.—Osler Hall, Academy of Medicine.

Chairman—The President of the Academy.

"PERIODIC HEALTH EXAMINATION"—Dr. Haven Emerson, Columbia University, New York.
Discussion to be opened by—
Dr. A. Grant Fleming, Montreal, Anti-Tuberculosis and General Health League.
Dr. George W. Ross, Toronto.

"DISCUSSION OF THE TECHNIQUE OF EXAMINATION"—
Dr. George S. Young, Toronto.
Dr. A. G. McPhedran, Toronto.

Public Health Nursing Section

Thursday, May 6th, 8 p.m.—Room 43.

Chairman—Florence H. M. Emory, Reg. N., Assistant Director, Department of Public Health Nursing, University of Toronto.

I. "THE RELATIVE VALUE OF HEALTH TEACHING IN THE SCHOOL AND THE HOME"—

"The School"—Bernice Lousley, Reg. N., Public Health Nurse, Swansea, Ont.

"The Home"—Alice Thomson, Reg. N., Superintendent, Department of Public Health, Toronto.

Discussion led by—B. A. Ross, Reg. N., Supervisor School Nursing, Department of Public Health, Toronto,
M. L. Moag, Reg. N., Superintendent V.O.N., Montreal.

II. "PUBLIC HEALTH IN THE CURRICULUM OF NURSING SCHOOLS"—

"Dalhousie Health Centre"—Esther Beith, Reg. N., Director, Child Welfare Association, Montreal.

"Public Health Teaching for the Undergraduate Nurse"—E. K. Russell, Reg. N., Director, Department of Public Health Nursing, University of Toronto.

Discussion led by—Edith B. Hurley, Reg. N., Professor, Public Health Nursing, University of Montreal,
E. H. Dyke, Reg. N., Director, Division of Public Health Nursing, Department of Public Health, Toronto.

Election of Officers.

SIXTH SESSION

Ontario Health Officers' Association

Friday, May 7th, 9.00 a.m.—Room 43.

Chairman—Dr. Fred Adams, President Ontario Health Officers' Association.

"Sanitary Inspection of Schools"—Dr. G. A. Morgan, Peterborough.

"The Prevention and Treatment of Dental Disease"—Dr. Wallace Seccombe, Dean of the Faculty of Dentistry, University of Toronto.

"Surgical Removal of Dental Infection"—Dr. W. B. Amy, Toronto.

"The Simplified Feeding of the Normal Infant"—Dr. Frederick Tisdall, Hospital for Sick Children, Toronto.

Report of Standing Committees.

Liquid Soap Protects!

The germ-laden bar of soap is one of the chief spreaders of disease. Remove this danger by the use of LIK-WID Brand—the pure liquid soap.

Our Hospital Green Base Soap (concentrated) is used exclusively by some of the largest Hospitals and Institutions, among which is included The Sick Children's Hospital, Toronto.

Prices and Samples on Request.

G. H. WOOD & CO.

Manufacturers of Sanitary Products

Owning and operating
LIQUID SOAP & SANITARY PRODUCTS COMPANY

TORONTO MONTREAL OTTAWA

KLIM IS UNIFORM MILK

From Which Only the Water Has Been Removed

KLIM is standardized to 3.33% butterfat content when liquid, or 28% when dried. When KLIM is reliquified the butterfat, in fine globular division, remains in perfect emulsion.

A cream line cannot fail frequently to create differences in the fat content of the baby's bottle or the child's ration. In the latter case the cream too often finds its way to the parent's coffee. KLIM eliminates these hazards.

We shall be glad to send you literature and generous samples for any investigations you may wish to make.

CANADIAN MILK PRODUCTS LIMITED

347 ADELAIDE STREET WEST, TORONTO

POWDERED PROTEIN MILK

C.M.P. Brand Powdered Protein Milk is becoming universally recognized as being one of the safest prophylactic foods for young infants. It was originated in conjunction with the Staff of the Hospital for Sick Children, Toronto. We shall be glad to send you samples upon request.

Laboratory Section

Friday, May 7th, 9.30 a.m.—Room 18.

Chairman—Dr. Norman MacLeod Harris.

(1) "Non-Typical Wassermanns in Spinal Fluids"—by Mabel M. Malcolm, Vancouver General Hospital, Vancouver.

(2) "A Sterilizable Dialyzing Membrane—Cellophane"—by Dr. Hibbert W. Hill, Vancouver General Hospital, Vancouver.

(3) "The Effect of Radium Emanations upon Bacillus Tuberculosis"—by Dr. Louis Parè, Notre Dame Hospital, Montreal.

(4) "Further Observations on the Growth of Bacillus Tuberculosis on Plain Agar—by Dr. Louis Parè, Notre Dame Hospital, Montreal.

(5) "Laboratory Diagnosis of Smallpox"—Dr. N. E. McKinnon, Connaught Laboratories, University of Toronto.

Election of Officers.

SEVENTH SESSION

General Meeting of the Associations

Friday, May 7th, 2.15 p.m.—Room 43.

Presidential Address—Hon. Mr. Justice Riddell, President Canadian Social Hygiene Council.

"Scientific Attitude—Public Opinion in Relation to Science in General and Public Health in Particular"—Dr. George E. Vincent, President The Rockefeller Foundation.

Friday, May 7th, 5.00 p.m.—Room 43.

Annual Meeting of Canadian Public Health Association.

General Secretary's Report.
Treasurer's Report.
Report of Standing Committees.

EIGHTH SESSION

Friday, May 7th, 8.15 p.m., Hygeia House, 40 Elm St.

Annual Meeting of Canadian Social Hygiene Council.

General Secretary's Report.
Treasurer's Report.
Report of Standing Committees.
Report from Provincial Committees.
Report of Nominations Committee.

Spend a little time with each exhibitor—it will repay you.

THE Committee in charge of the Congress desire to direct the attention of all delegates to the exhibits of the following firms who have generously supported the Congress and whose exhibits are of very special interest.

Canadian Laboratory Supplies Company
Canadian Milk Products, Limited
Five-in-One Envelope Company
J. F. Hartz Co., Limited
The Kaustine Manufacturing Company, Limited
The Association of Canadian Bookmen

Canadian Laboratory Supplies Limited

Canada's Leading Laboratory Supply House

HEADQUARTERS IN CANADA
FOR ALL KINDS OF CHEMICAL, BACTERIOLOGICAL,
PATHOLOGICAL APPARATUS AND
CHEMICAL REAGENTS

SEE OUR EXHIBIT OF APPARATUS IN PHYSICS BUILDING,
UNIVERSITY OF TORONTO

WE EXTEND A CORDIAL INVITATION TO ALL ATTENDING
THE ANNUAL CONVENTION IN TORONTO
TO INSPECT OUR SHOWROOMS AND STOCK

437-439 King Street West :: Toronto 2, Ont.

15¢ PER PKG.
— and in ½ lb. VACUUM (AIR-TIGHT) TINS
OLD CHUM
VIRGINIA FLAKE CUT
SMOKING TOBACCO
REGISTERED
TRADE MARK
B. Ritchie & Co
MANUFACTURED BY IMPERIAL TOBACCO CO OF CANADA, LIMITED MONTREAL CANADA SUCCESSOR
The Tobacco of Quality

Editorial

THE HEALTH CONGRESS

As this issue of the PUBLIC HEALTH JOURNAL goes to press preparations are in full swing for the Health Congress. A full final programme is included herein and a perusal of it will convince members of the three participating organizations that time well spent will be that spent in attending the various sessions.

The idea of periodically bringing together groups of people interested in health promotion is a good one and there is no doubt that all national health conventions have their value. The value of this particular convention will, of course, be very great. But perhaps the time is opportune for one to question whether the holding of one national convention a year (or sometimes less frequently) is sufficient for the Dominion of Canada.

Health is not a matter which should claim the attention of only the few, and actually few people as compared to the people interested are able to attend a national convention wherever it is held. One wonders whether it might not be made possible in some way for the interested or the should-be-interested citizens in all parts of the Dominion to participate in conferences in which they might hear the latest developments in the health field at first hand and take part in discussion as to ways and means for conserving health in their own communities.

One often asks oneself perhaps—especially if one is uninitiated—why some communities are better cared for than others from the health point of view. Why mortality rates stay high in one city or district and fall in others—and why the public often do not seem to care much whether or no there is too much disease and death. The answer is, of course, an uninformed and uneducated public opinion. Until the public realize both the possibilities in the direction of disease prevention and their own responsibility in the matter little will be done to improve the unfortunate condition of affairs which exists in many places at present.

The step which should be taken then must be in the direction of helping to educate and mould public opinion and perhaps one of the most useful means for achieving that end will be by such measures as are adopted in the bringing together of a health congress. What is good for the Dominion, however, is good for the province, and what is good for the province is good for the municipality or rural area. An occasional

get-together on health matters would be a good thing for the citizens of every town and city in Canada.

Why should those of us attending the present health congress in Toronto not make up our minds to go home and get together a group of citizens in our own home town—the doctor, the minister, the school teacher—the more the merrier, and form a little health congress of our own. Let us carry on, consult together as to ways and means—and soon that pasteurizing scheme—or that new water supply—or the public health nurse we need—or some of the other things we need to bring health to our own community will be achieved.

The lesson to be derived from a national health congress then is simply this. To get together to discuss the health problems of the Dominion is well and good as far as it goes—and no further. The health problems of the Dominion will, to a large extent, be solved by the active co-operation of the men and women of the towns and cities and hamlets of the county, and unless these folk—in other words ourselves—get together and plan and work—the end in so far as the prevention of preventable disease and death is concerned is not yet. Health progress in the Dominion depends on the number of us who learn this lesson.

SMALLPOX

An interesting summary of deaths from smallpox during the last three years is provided by the current number of the Statistical Bulletin issued by the Metropolitan Life Insurance Company

It would appear that the year 1923 showed a relatively low case fatality rate. This favourable 1923 report, however, was followed during 1924 by a nearly hundred per cent. increase in the number of persons attacked by smallpox. In addition there was a six-fold increase in the actual number of deaths, accompanied by a more than two hundred per cent. rise in virulence as reflected by the case fatality rate. Furthermore the Bulletin states, "the reports which have reached us, for the early months of 1926 have been by no means encouraging. There has been an increase in smallpox in various of the states of the United States, and in California between January 2nd and February 20th, 964 cases were reported, with 86 deaths. This being equivalent to the high case mortality rate of 8.9 deaths per hundred cases".

To summarize the reports for the United States and Canada, during the years 1923, 1924 and 1925, in 1923 there were 29,724 cases with 153 deaths, or .51 deaths deaths per 100 cases. In 1924 there were 54,387 cases with 945 deaths, or 1.74 deaths per 100 cases. In 1925 there were 38,166 cases with 710 deaths, or 1.86 deaths per 100 cases.

The lesson to be learned by a perusal of statistics such as these is that a single encouraging record such as that for 1923 with a relatively low case fatality rate must not allow us to deceive ourselves into believing that the smallpox question is settled, but that every year we must continue, as suggested by the editor of the Statistical Bulletin, to disseminate the truth about smallpox upon every occasion, and this duty should be undertaken by every public health officer. We shall continue to suffer from outbreaks of this death-dealing disease until we have persuaded the public that in systematic vaccination of children and in systematic revaccination of adults lies the only safeguard against possible death and disfigurement. In the absence of careful and continuous public education there will be no escape from smallpox. Eternal vigilance must be our watchword!

HEALTH CONCEPTIONS

As the years go on our conception of health tends to broaden. Generally speaking the conception the average person has of health is absence of disease, and many people feel that the attack on physical, and particularly communicable disease, constitutes the whole duty of the health authorities.

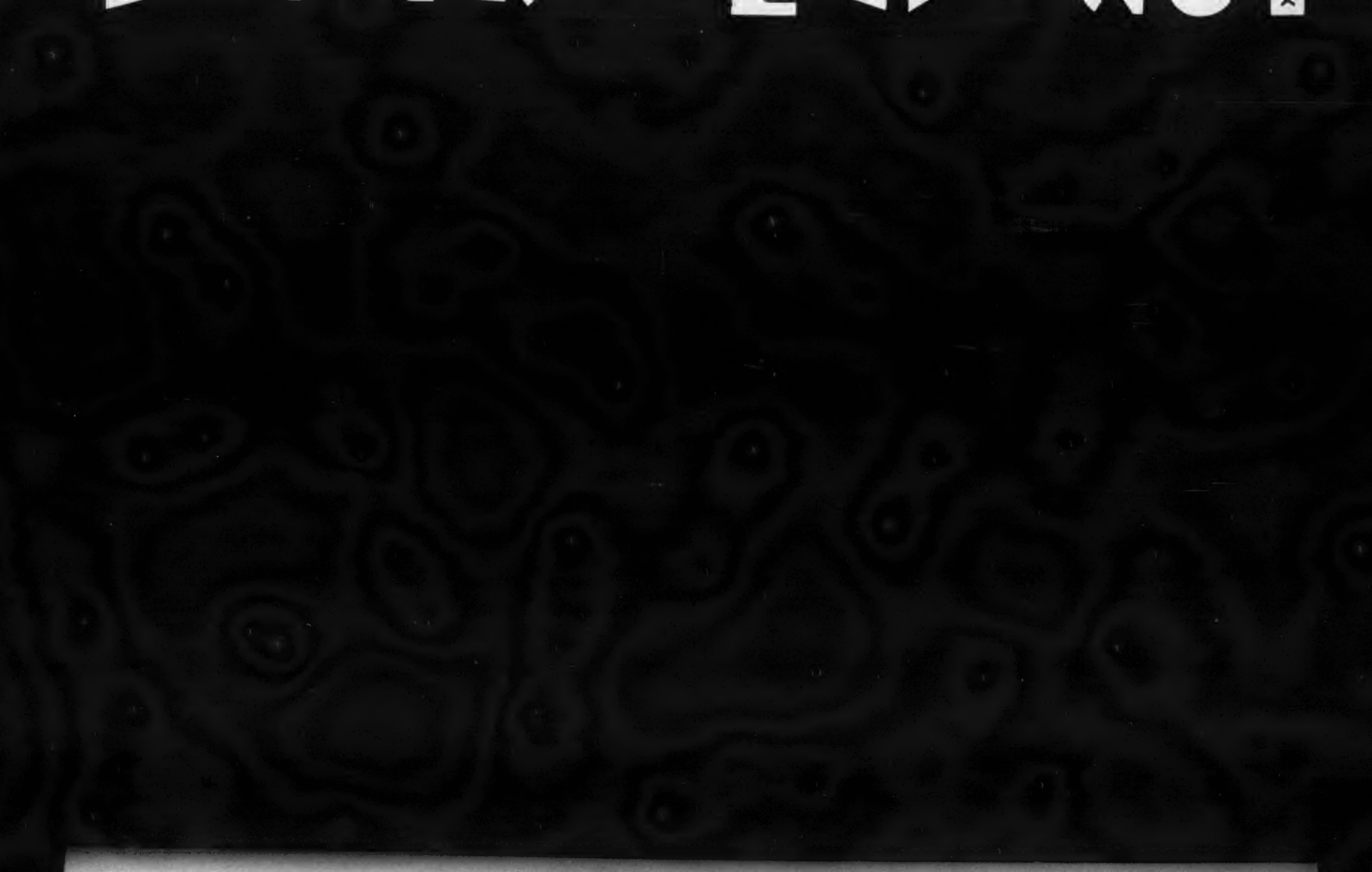
As a matter of fact the older the world grows the more complicated becomes the task of health conservation. True it is that largely because of the success of the attack which has been made on the communicable diseases and the diseases of early childhood, the expectation of life for the average person has been materially increased. Here the discoveries of Pasteur and his successors have been made use of with marvellous results. But it would appear that the dealing with the problems which still remain with us is a sufficiently complicated task to demand the best brains and the most arduous work.

For example, it has been said that worry has been and remains one of the greatest causes of high blood pressure. Man is as old as his arteries and so long as we have worry we will have prematurely hardened arteries and premature old age. Surely the health officer of the future must take cognizance of the social and domestic factors which create conditions which kill just as surely as the spirochaete and the tubercle bacillus.

Again, speaking of the spirochaete and the tubercle bacillus brings one to a discussion as to how far the control of venereal disease and tuberculosis have proceeded and of the methods to be followed if final victory over these afflictions is to be assured. In spite of all we have done in

these fields the greater part of the work is still to be done. The slum is just as great a cause of the spread of tuberculosis as is the absence of sanitaria, and tuberculosis will not disappear until slums and all that they stand for disappear from among us. Venereal Disease control depends more in the long run on the character of our people and their moral standards than on the establishment of venereal disease clinics—and what are we—those of us who believe that there is no greater mission or career than that envolved in a health officer's career—going to do about it.

Then there is the matter of cancer, a problem whose solution depends on a vast development of research; the problem of getting medical aid to people who need it when they need it and because the solution of many of our troubles lies in discovering them before they amount to much, rather than after—there is the matter of periodic health examination.

'Every physician a health officer' is one of the solutions presented by Dr. George Vincent of the Rockefeller Foundation, and certainly a recasting of the functions and responsibilities of the physician seems to be one of the great needs of this generation. But even the assumption of a new mantle of responsibility by the physician is insufficient. If we are content with this, doctors in the new scheme of things may find it necessary to wait long and patiently before the prospective avalanche of apparently well people condescends to come for advice. We must not forget the ordinary man on the street who is still uninformed as to his duties in the matter.

And so on through the whole field of health conservation. People must learn not only how not to die, but how to live, what to eat, when to marry, how to work and how to play, as well as when to consult their doctors. Altogether the scheme of things as they ought to be when it comes to keeping the world healthy is scarcely as simple as it seems.